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From a Camera Portrait

HIS ROYAL HIGHNESS THE PRINCE OF WALES
IN HIS UNIFORM AS COLONEL
OF THE WELSH GUARDS

by Hugh Cecil

THE ENCYCLOPEDIA OF THE BRITISH EMPIRE

THE FIRST ENCYCLOPEDIC RECORD
OF THE GREATEST EMPIRE IN
THE HISTORY OF THE WORLD

EDITED BY

CHARLES W. DOMVILLE-FIFE

Illustrated with 2000 Photographs and Maps

VOL. II.

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For Gazetteer and Index see end of work

BRITISH ISLES

GENERAL DESCRIPTION OF

ENGLAND AND WALES, SCOTLAND AND IRELAND

The United Kingdom

ALTHOUGH commonly called the United Kingdom, since the Union of the three independent States, England, Ireland and Scotland, the British Isles are divided for administrative and other purposes into six divisions, viz. : (1) England and Wales, (2) Scotland, (3) Channel Islands, (4) Isle of Man, (5) Northern Ireland, and (6) Irish Free State. These are subdivided into counties. For the purpose of description each of the main divisions will be treated separately.

England and Wales

England and Wales occupy the southern and larger portion of the continental island of Great Britain, which is situated on the Atlantic border of Northern Europe. For most purposes the two countries are treated as one—in a legal sense the word England includes Wales, unless there is an express exclusion—and for commercial purposes no distinction is made. England has an area of 50,850 square miles, and Wales of 7,468 square miles ; that is, England and Wales are, together, about one-half of the United Kingdom. The estimated population in 1930 was about 40,000,000. This gives the average density as over 685 to the square mile—45 per square mile higher than pre-war Belgium, then the most densely populated country on the Continent of Europe. England's position is accounted for entirely by the height that she has attained in industry and commerce.

COAST LINE.

Considering its area, the coast line of England and Wales is remarkably long, being nearly 2,000 miles, and this fact has had much to do with the position which has been attained in international commerce. There are plenty of excellent natural harbours, and even where nature has not been altogether favourable, science has come to her aid with most beneficial results. The deep indentations in the coast have also brought about this advantage, that no part of the interior of the country is far removed from the sea, and transport is comparatively easy and cheap between the chief manufacturing centres and the principal seaports. This statement will come home to the student more clearly by an examination of the map itself than by a detailed account of the various connections.

MOUNTAINS.

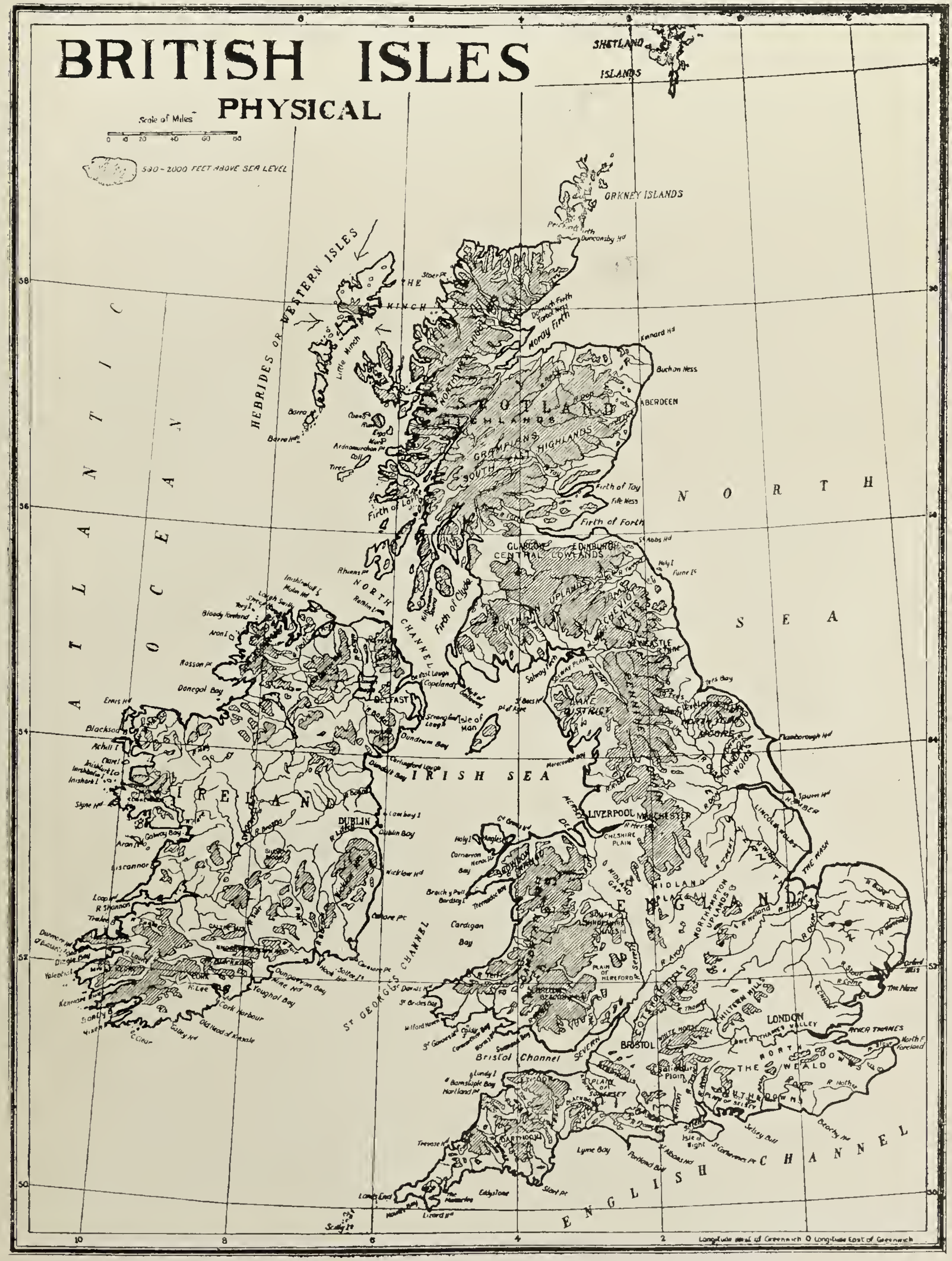
The most lofty heights of England and Wales are situated at no great distance from its western shores, and consist not so much of a continuous chain as of a succession of mountains and hills, stretching, with some interruptions, from north to south, and throwing out numerous branches on both sides, but particularly to the west, where all the culminating summits are found. The northern portion of this range has received the name of the Pennine Chain. It is properly a continuation of the Cheviot Hills, and, commencing at the Scottish border, proceeds south for about 270 miles, gradually lowering

LAND'S END, CORNWALL

till, in the counties of Derby and Stafford, it assumes the form of an elevated moorland plateau. Its principal offsets to the east are in Northumberland and Durham, where they stretch, almost without interruption, to the coast, form the moorlands of those counties, and separate the valleys of the Rivers Tyne, Wear and Tees, which all take their rise in the chain. Several minor offsets proceed into the great plain of Yorkshire, and are finally lost in it. The Ouse, and numerous other streams by which this plain is so liberally watered, have also their sources in the chain. But by far the most important offsets are those of the west, more especially if we include in them the lofty mountain masses which, from being most largely developed in Cumberland, are sometimes classed separately under the name of the Cumbrian Range.

This range, which links with the Pennine Chain, on the eastern borders of Westmorland, covers a considerable part of that county, stretches across it, and, almost immediately after passing its border, attains, in Scafell, the height of 3,166 ft. The heights next to it are Helvellyn, 3,055 ft. and Skiddaw, 3,022 ft., but several others nearly equal them, and usually retain their covering of snow from six to eight months. The proximity of these mountains to the west coast, and the barrier interposed by the principal Pennine Chain on the east, make it impossible for them to be either the sources or the feeders of any lengthened streams, and hence, perhaps, it is that, having no more immediate outlet for

THE CLIFFS, PORTLAND, DORSET *Photos, G.W. Rly.*


BRITISH ISLES
PHYSICAL
Scale of Miles
0 10 20 40 60 80
500–2000 FEET ABOVE SEA LEVEL
SHETLAND ISLANDS
ORKNEY ISLANDS
Duncansby Hd
HEBRIDES OR WESTERN ISLES
THE MINCH
Little Minch
Barra
Barra Hd
Coll
Tiree
Ardnamurchan Pt
Moray Firth
Dornoch Firth
Kinnaird Hd
Buchan Ness
ABERDEEN
SCOTLAND
NORTH WEST HIGHLANDS
GRAMPIANS
SOUTH EAST HIGHLANDS
Firth of Tay
Fife Ness
Firth of Forth
Firth of Lorne
Firth of Clyde
St Abbs Hd
GLASGOW
EDINBURGH
CENTRAL LOWLANDS
SOUTHERN UPLANDS
CHEVIOT HILLS
NORTH CHANNEL
Solway Firth
NEWCASTLE
Tees Bay
Holy I
Farne Is
NORTH SEA
ATLANTIC OCEAN
Inishtrahull
Malin Hd
Bloody Foreland
Tory I
Aran I
Rosses Pt
Donegal Bay
Erris Hd
Blacksod
Achill I
Clare I
Inishturk
Inishark I
Slyne Hd
BELFAST
Belfast Lough
Copeland
Strangford Lough
Dundrum Bay
Isle of Man
Mull of Galloway
St Bees Hd
LAKE DISTRICT
NORTH YORK MOORS
Flamborough Hd
Morecambe Bay
IRISH SEA
Carlingford Lough
Dundalk Bay
Lambay I
DUBLIN
Dublin Bay
Wicklow Hd
IRELAND
Galway Bay
Aran Is
Liscannor
Loop Hd
R Shannon
Tralee
Dingle Bay
Valentia
Kenmare
Bantry B
Mizen
C Clear
CORK
Cork Harbour
Youghal Bay
Dungarvan Bay
Old Head of Kinsale
Carnsore Pt
Saltee Is
St GEORGE'S CHANNEL
Cardigan Bay
Holy I
Anglesey
Carnarvon Bay
Bardsey I
LIVERPOOL
MANCHESTER
CHESHIRE PLAIN
Spurn Hd
HUMBER
LINCOLN WOLDS
THE WASH
MIDLAND PLAIN
ENGLAND
NORTHAMPTON UPLANDS
PLAIN OF HEREFORD
St Davids Hd
St Brides Bay
Milford Haven
Bristol Channel
SEVERN
BRISTOL
COTSWOLD HILLS
CHILTERN HILLS
LONDON
THAMES VALLEY
R THAMES
North Foreland
NORTH DOWNS
THE WEALD
SOUTH DOWNS
Salisbury Plain
PLAIN OF SOMERSET
Lundy I
Barnstaple Bay
Hartland Pt
Trevose Hd
DARTMOOR
Lyme Bay
Portland Bill
St Albans Hd
Isle of Wight
St Catherines Pt
Selsey Bill
Beachy Hd
Orford Ness
The Naze
Lands End
Lizard Hd
Eddystone
Start Pt
Scilly Is
ENGLISH CHANNEL
Longitude West of Greenwich 0 Longitude East of Greenwich
10
8
6
4
2
58
56
54
52
50

SPECIALLY DRAWN FOR THE ENCYCLOPEDIA OF THE BRITISH EMPIRE BY A.H.LEE

THE RIVER DART, TOTNES, DEVONSHIRE *Photo, G.W. Rly*
Often called "The English Rhine"

extent of space covered by them. Viewed as the central portion of the great longitudinal chain, it properly begins where the northern portion terminates, in the Derby and Staffordshire moorlands, and proceeds southwards in the line of the Wrekin and other hills of Salop, the Malvern Hills between Hereford and Worcester, and the Cotswold Hills in Gloucester.

The several hills now mentioned are not remarkable for their elevation, but owing partly to their central position, and partly the vast quantities of moisture which they necessarily attract from the overcharged clouds of the Atlantic, they have accumulated it in a number of magnificent lakes, which give peculiar charm to the romantic scenery of the district.

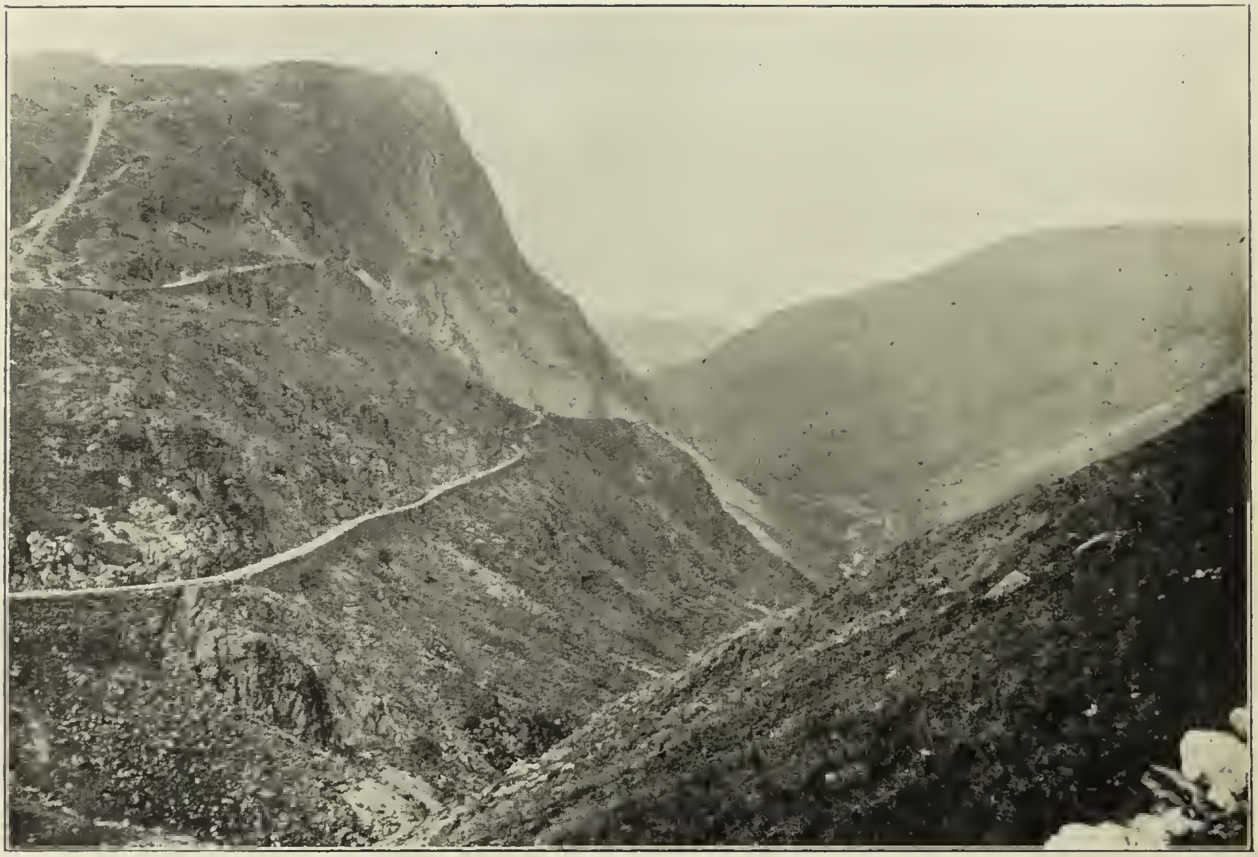
The distance of the Pennine Chain from the west coast, widening considerably, as it proceeds southwards, furnishes space for the course of two important streams—the Ribble, the estuary of which, in early times, before encroaching sands had nearly choked its entrance, formed an admirable roadstead; and the Mersey, at whose mouth an insignificant haven of the last century has rapidly grown up into the second port of the Kingdom (Liverpool). The Pennine Chain, with its appended Cumbrian Range, is succeeded by one which surpasses it, both in the loftiness of its mountains and the

to the extent of surface which they occupy, they constitute one of the most important watersheds of the country, and furnish several of its largest rivers with their supplies. Still, however, the great nucleus of the range must be sought much further to

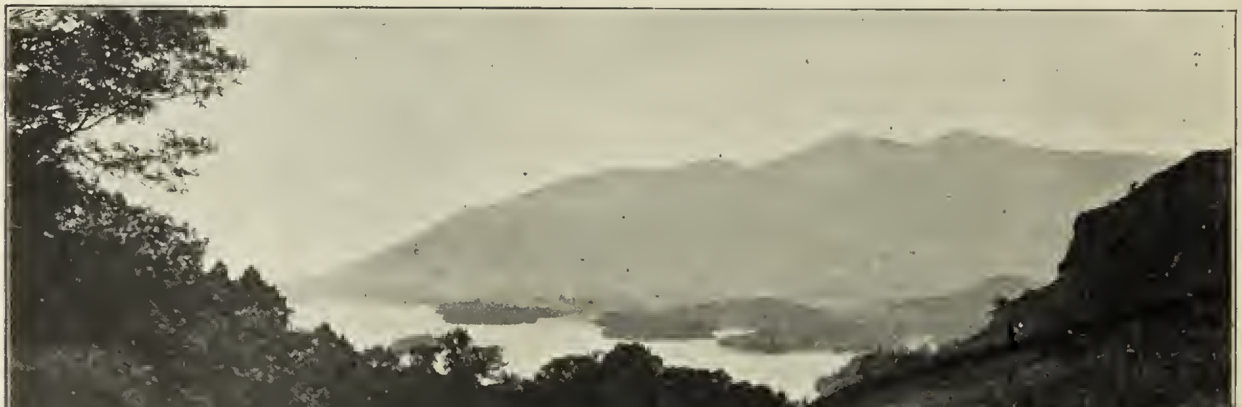
BEACHY HEAD, EASTBOURNE, SUSSEX *Photo, Southern Rly.*

Photo, L.M.S. Rly.

MOUNTAIN AND LAKE
Derwentwater from Friar's Crag



HONISTER PASS, CUMBERLAND MOUNTAINS



SKIDDAW, CUMBERLAND MOUNTAINS

Photos L.M.S. Rly.

the west, where it covers the greater part of the principality of Wales, and has been designated, from its ancient name of Cambria, as the Cambrian Range. Its principal ridge stretches through Carnarvonshire, from N.N.E. to S.S.W., ascending gradually from each extremity, till near its centre it attains in Snowdon, 3,590 ft., the culminating point of South Britain. Plinlimmon, in the south-west of Montgomery, is much inferior in height, being only 2,463 ft. In mass, however, it surpasses Snowdon and every other mountain of the range, and may justly claim precedence of them all as the source of the Severn.

The last part of the longitudinal chain has received the name of the Devonian Range. It may be considered as commencing in the Mendip Hills of Somerset, and then pursuing a south-west direction through that county, and the counties of Devon and Cornwall, to Land's End. Its culminating point, Yestor Beacon, near Okehampton, in Devonshire, is 2,077 ft., and the wild and desolate tract of Dartmoor forest, belonging to the range, and forming one of its most remarkable features, has an elevation of about 1,700 ft. The average height of the range falls far short of this, and cannot be estimated higher than 1,000 ft.

In addition to the principal ranges which have now been mentioned, there are a number of others which, though of inferior elevation, are so distinctly marked, and have so much influence in determining the general features of the country, that a distinct idea of it cannot be obtained without adverting to them. One of these, which may be considered as a continuation of the Cotswold Hills of Gloucester, proceeds in a north-east direction, between the counties of Warwick and Leicester, on the left, and Oxford, Nottingham and Rutland, on the right, forming the principal watershed between the basins of the Wash and the Humber. Most of the other ridges may be considered as having a common point of departure in the county of Wilts. The most southerly, commencing near the city of Salisbury, proceeds eastward through Hampshire and

LAKE WINDERMERE AND THE CUMBERLAND RANGE *Photo, L.M.S. Rly.*

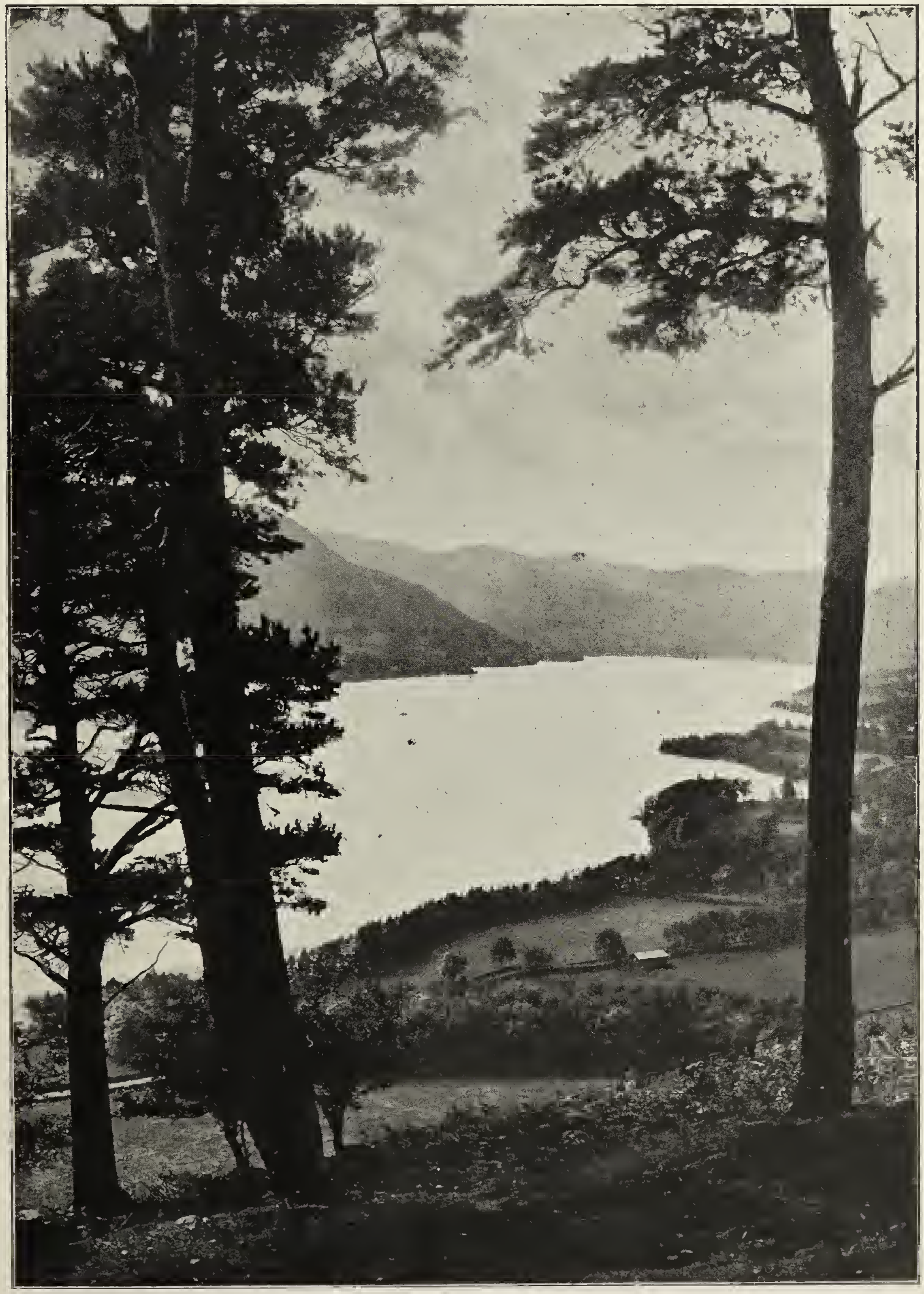
BUTTERMERE IN ITS CIRCLE OF SUBLIME MOUNTAINS *Photo, L.M.S. Rly.*

Sussex, inclining gradually to the south till it reaches the coast, near Beachy Head. Another ridge, to the north of the former, takes a direction nearly parallel to it, across the north of Hampshire, and the centres of Surrey and Kent, finally bending round to the south-east and reaching the coast at Folkestone.

The third, and longest ridge of all, is very circuitous. First, describing nearly a semicircle in the northern part of Wiltshire, it stretches east across the centre of Berkshire, then north-east, through Oxford and Bucks, and between Bedford and Hertford, and Cambridge and Essex. On reaching the west borders of Suffolk, it takes a northerly direction through that county, and the west of Norfolk, till it reaches the south shore of the Wash. Though lost beneath that estuary, the hills, which commence almost opposite to it on the north shore, are evidently its continuation. Its direction is now N.N.E., through the east of Lincoln, to the south bank of the Humber, at Ferriby. Reappearing on the opposite side of the river, it proceeds northwards, through Yorkshire, where it takes the name of the Hambledon Hills, and at last spreads out into a large tract of moorlands. The principal and secondary ridges which have been described, forming what may be called the framework of the country, give shape and limits to its valleys and plains, and determine the course of its rivers.

VALLEYS, PLAINS AND RIVERS.

Beginning in the north, where, from the extent of surface occupied by mountains and moorlands, and the comparative narrowness of the island, the open space left is very limited, the first valleys which we meet with on the east side are those of the Coquet and Tyne, the former not large, but very fertile, and the latter, though beautiful and romantic in its upper part, more remarkable in its lower for the treasures beneath its surface than for the richness of its soil. To the south of these is the Vale of Stockton, bounded on the north by the highlands of Durham, and on the south by the east moorlands of Yorkshire. Its length, measured by the Tees, which traverses it, is nearly forty



ULLSWATER

One of the most beautiful of the English lakes

Photo, L.M.S. Rly.

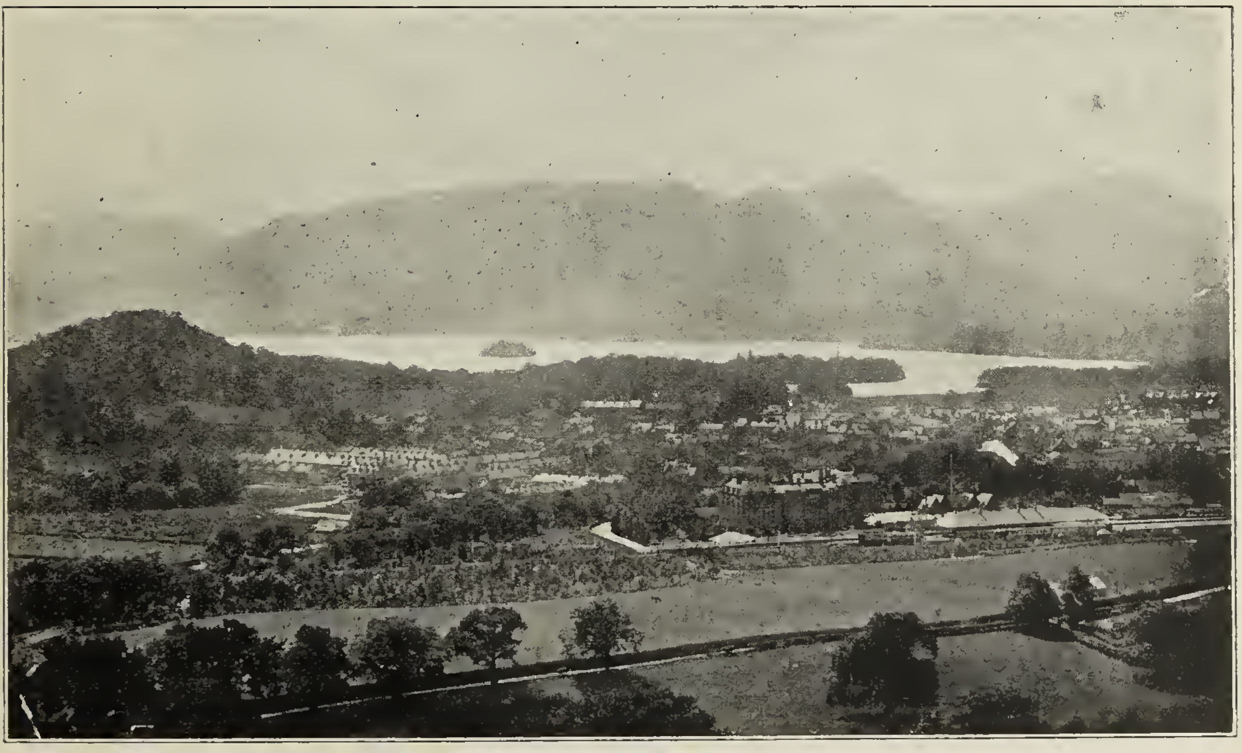
THE NEEDLE'S EYE, WELLINGTON WREKIN

miles, and its breadth, where widest, about fifteen miles. On the west side of the island, nearly opposite to it, commences the beautiful valley of the Eden, which, at first hemmed in between the Cambrian Range and the Pennine Chain, gradually widens as it proceeds northwards, and finally spreads out into a wide plain of about 300,000 acres, with the town of Carlisle in its centre. One remarkable circumstance connected with it is the course of the River Eden, which with the exception of the Trent, is the only one of any importance in England which flows in the main northerly.

The next valley or plain which attracts notice is in some respects the most important of all. It is known by the name of the Vale of York, and has an area of nearly 1,000 square miles. In the north it unites imperceptibly with the Vale of Stockton, and is skirted by a number of small shallow lakes ; moorlands proceeding from the Pennine Chain bound it on the west, and the Hambledon Hills, already mentioned, on the east ; in the south it sinks down into the marsh lands which line the north bank of the Humber. Beyond this vale, on the east is that of Pickering, in the form of an imperfect oval, of which the longer axis is thirty-five miles, and the shorter ten miles, and the area about 190,000 acres. To all appearance it is the bed of an ancient lake. To the south and east of it is the district of Holderness, an extensive flat, bounded on the east by the North Sea, and on the south by the Humber, and generally composed of a rich alluvium, the

ILFRACOMBE, THE HARBOUR *Photos, G.W. Rly.*

KENDAL, Hawes Bridge



KESWICK
View from Latrigg

Photos, L.M.S.Rly.

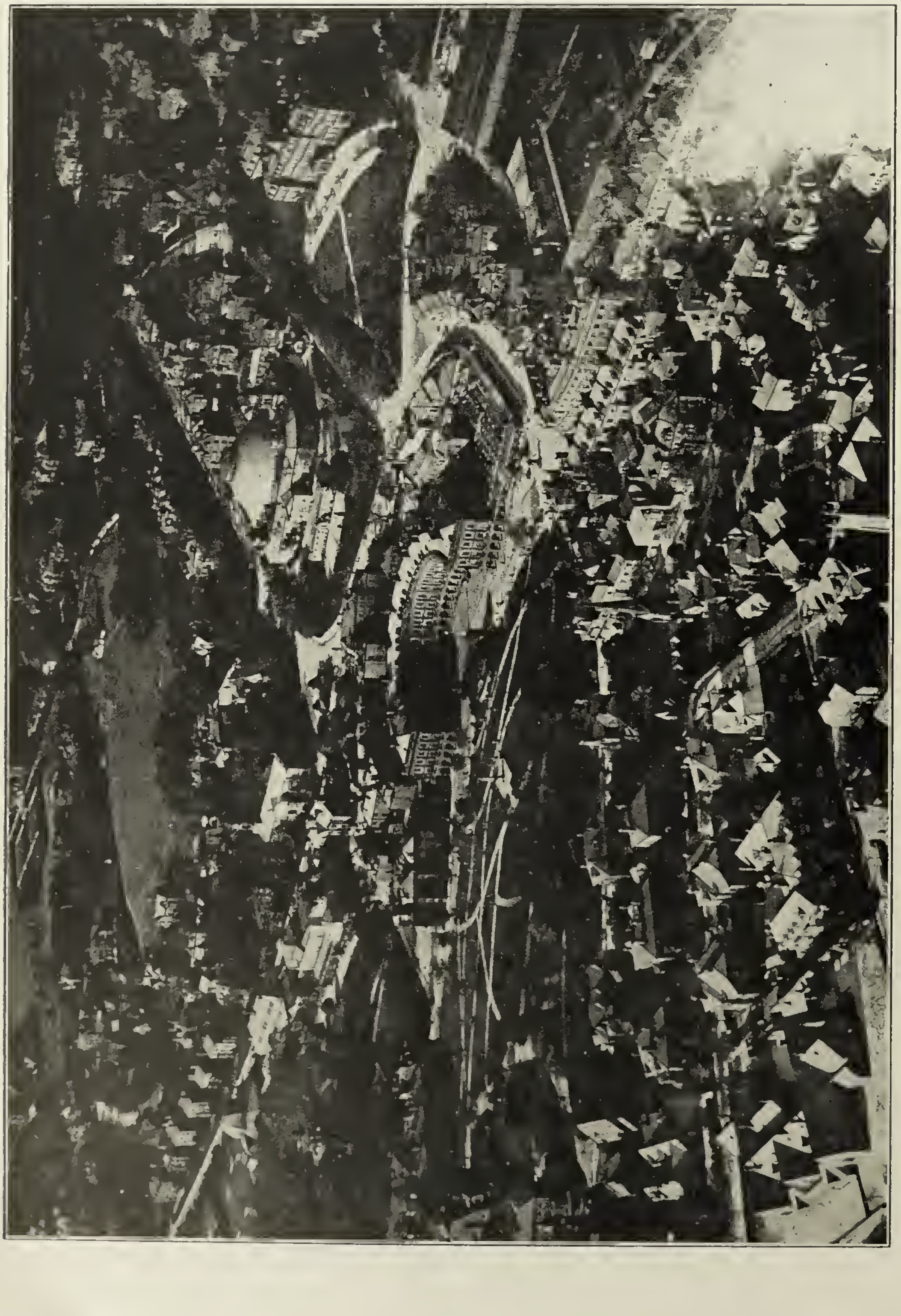


Photo. L.M.S Rly.

BUXTON, THE MOUNTAIN SPA

Near the Peak District of Derbyshire

productive powers of which appear to be all but inexhaustible. Its area exceeds 400 square miles. The plain is usually considered to stop here, because its continuity is broken by the Humber, but, properly speaking, it is still the same plain which stretches, with scarcely a single interruption, across the counties of Lincoln, Suffolk and Essex, to the mouth of the Thames, and to a considerable distance inland, occupying a large part of several of the counties immediately to the west.

Returning again to the opposite side of the island, we meet with several flat and fertile tracts in Lancashire, particularly along the course of the Ribble, and in the plain which lies between it and the Mersey. This plain, not confined to the north bank of the river, but continued along its south bank into Cheshire, includes in it the rich and beautiful Vale of Warrington. Passing over Cheshire, in which, notwithstanding the ridges which traverse its west, and the heights which bound its east side, there is much level land, we are brought to the confines of Wales. The nature of the country here almost precludes the possibility of extensive plains, and gives the valleys generally a narrow rugged form, which, however favourable to romantic beauty, is not very compatible with great fertility. Still, favoured spots do occur. Among others may be mentioned the Valley of Clwyd, chiefly in Denbigh, but partly also in Flintshire, extending along both sides of the river of its name for about twenty miles, with a varying breadth of eight or nine miles, and so superior in appearance to the general aspect of the surrounding districts, as to have gained the surname of the Eden of North Wales. Nor can the south division of the principality be considered destitute of vales, while it has that of the Towy, in Carmarthenshire, and the rich alluvial vale or flat which lines the shore of Glamorgan in the Bristol Channel, and stretches inland from eight to ten miles. Wales, too, by giving rise to the Severn, can justly claim part in its vale, or series of almost unrivalled vales, along which it pursues its romantic course through the counties of Montgomery, Salop, Worcester and Gloucester.

The chief vales of the west counties, as far as the Bristol Channel, and of the east,

BUXTON *Photo, L.M.S. Rly.*

as far as the mouth of the Thames, have now been mentioned. Of those of central England no notice has yet been taken ; but though they are numerous, they need not detain us long, as they are in general more remarkable for their fertility than their extent. As specimens, may be noticed : the grassy Vale of Aylesbury, near the centre of Bucks ; that of Catmose, forming a considerable part of Rutland ; and that of Belvoir, which follows the course of the Trent through Nottingham, to the borders of Leicester and Lincoln.

Proceeding south we are first attracted by the name of Salisbury Plain, occupying a large portion of South Wilts. But it is only in name that it can be classed with the other plains and level lands of England, as it has a character peculiarly its own. It is in fact an elevated plateau, of an oval shape, extending about twenty-two miles from east to west, and fifteen miles from south to north, and covered generally with a thin chalky soil, too unsubstantial to reward the labours of the plough. It is largely used as a military training ground (*q.v.*). Among the remarkable features which it presents, must not be forgotten the huge Druidical blocks of Stonehenge. Immediately to the north-east of it, is an extensive tract of similar but rather more rugged appearance called Marlborough Downs. From both tracts a number of streams descend and pursue different directions—north, east and west.

In the south-west, the only vales deserving of notice are those of Taunton, in Somerset, and Exeter, in Devon, the former containing about 100 square miles, and the latter 200 square miles. They lie at no great distance from each other, being only separated by the Blackdown Hills, and possess a beauty, and fertility, rendered still more striking by contrast with the rugged hills and barren moors of the neighbouring districts. A large portion of the south-east may be regarded as a continuous plain, consisting of what are called the Wealds of Sussex, Surrey and Kent. It is bounded on the north and north-east by the secondary range of hills above described as terminating near Folkestone ; and on the south, for the most part, by the South Downs, and contains an area of about 1,000

COVENTRY, THE THREE SPIRES *Photo, L.M.S. Rly.*

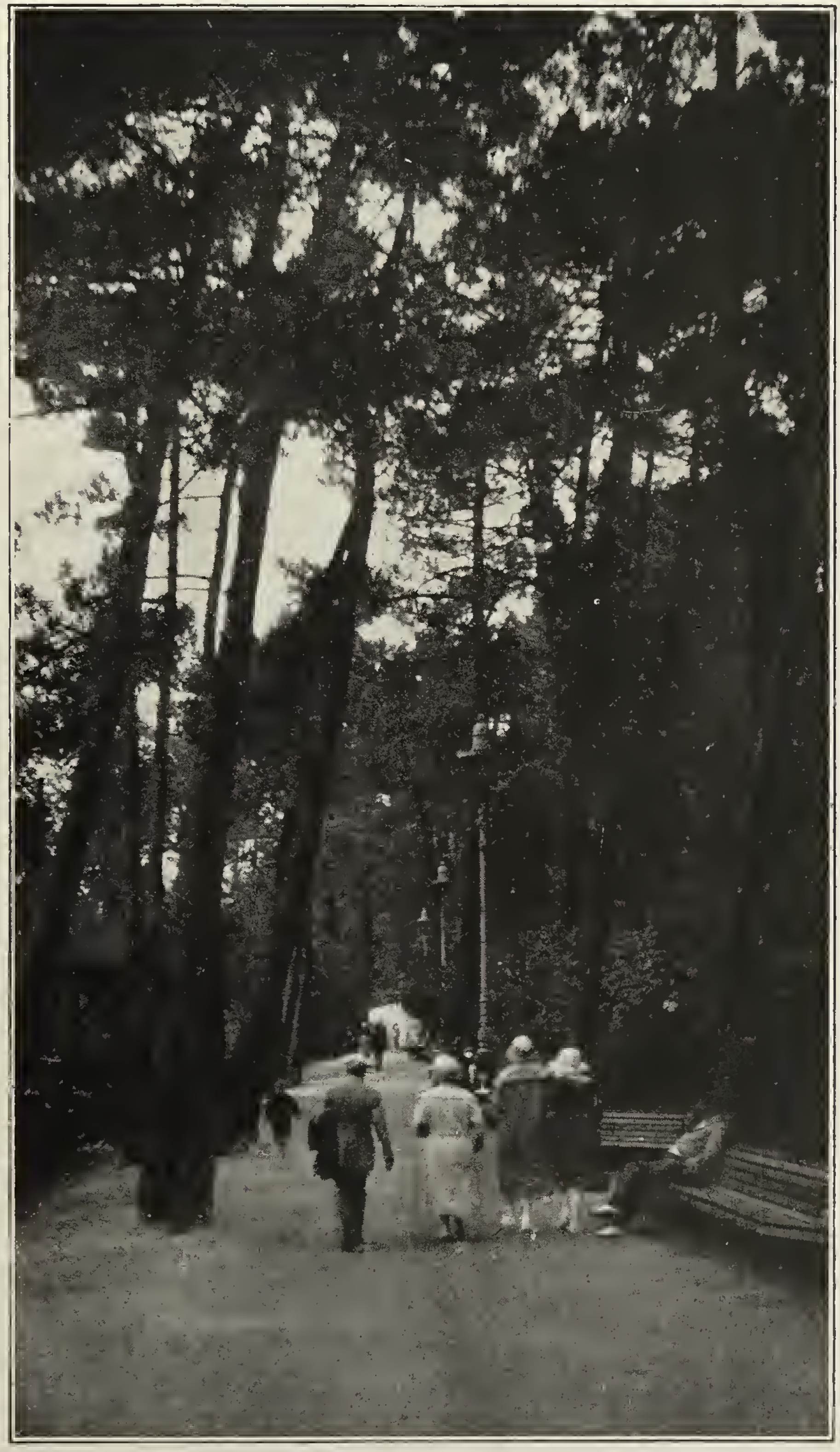
VIEW FROM THE SUMMIT OF SNOWDEN (3,590 ft.), CAMBRIAN MOUNTAINS (Inset, the Peak) *Photo, L.M.S. Rly.*

ETON COLLEGE, BUCKINGHAMSHIRE

square miles, having a length from west to east of sixty-five miles, and a breadth varying from eight to fifteen miles. As indicated by the Saxon name of Weald, it was originally a forest or hunting ground, occupied chiefly by herds of deer. The soil is not naturally rich, being principally composed of a stiff heavy clay, and occasionally of a sandy and gravelly loam. It is, however, well cultivated, and affords a good specimen of the great and beneficial changes which industry and skill are able to accomplish. The primeval forest has disappeared, but magnificent oaks, for which the soil is well adapted, are still numerous, chiefly in hedgerows or around the enclosures, so as to give the whole district a finely wooded appearance; rich cornfields or luxuriant pastures extend on every side as far as the eye can reach, while the numerous towns, villages, country-seats, farm houses and hamlets, bear testimony at once to the density of the population.

HEREFORD, HIGH TOWN *Photos, G.W. Rly.*

Few scenes can be imagined more delightful than that which the Wealds exhibit, when overlooked from the adjoining hills. The south-east angle of this district is occupied by the Romney Marsh, an extensive level tract, which, taken by itself, contains 24,000 acres, but with the addition of several other small marshes, which properly form part of it, is not less than 46,000 acres. The soil is not of equal quality throughout, but is composed, for the most part, of a rich marine deposit, the whole tract having been not so much recovered as conquered from the sea. The



BOURNEMOUTH
Among the Pines

Photo, Southern Rly.

DOLGELLEY, THE TORRENT WALK

mention of Romney Marsh reminds us of other extensive tracts of a similar nature, comprehended under the general names of marsh lands and fens. These are situated partly in Somersetshire, on the shores of the Bristol Channel, and the estuary of the Severn; but more especially on the East Coast, in Yorkshire and Lincoln, where they are washed by the Humber; and in the counties which either border the Wash, or, like Northampton, Bedford, Huntingdon and Cambridge, send their drainage into it, by the Nen and the Ouse. Many of these lands are naturally the richest in the Kingdom.

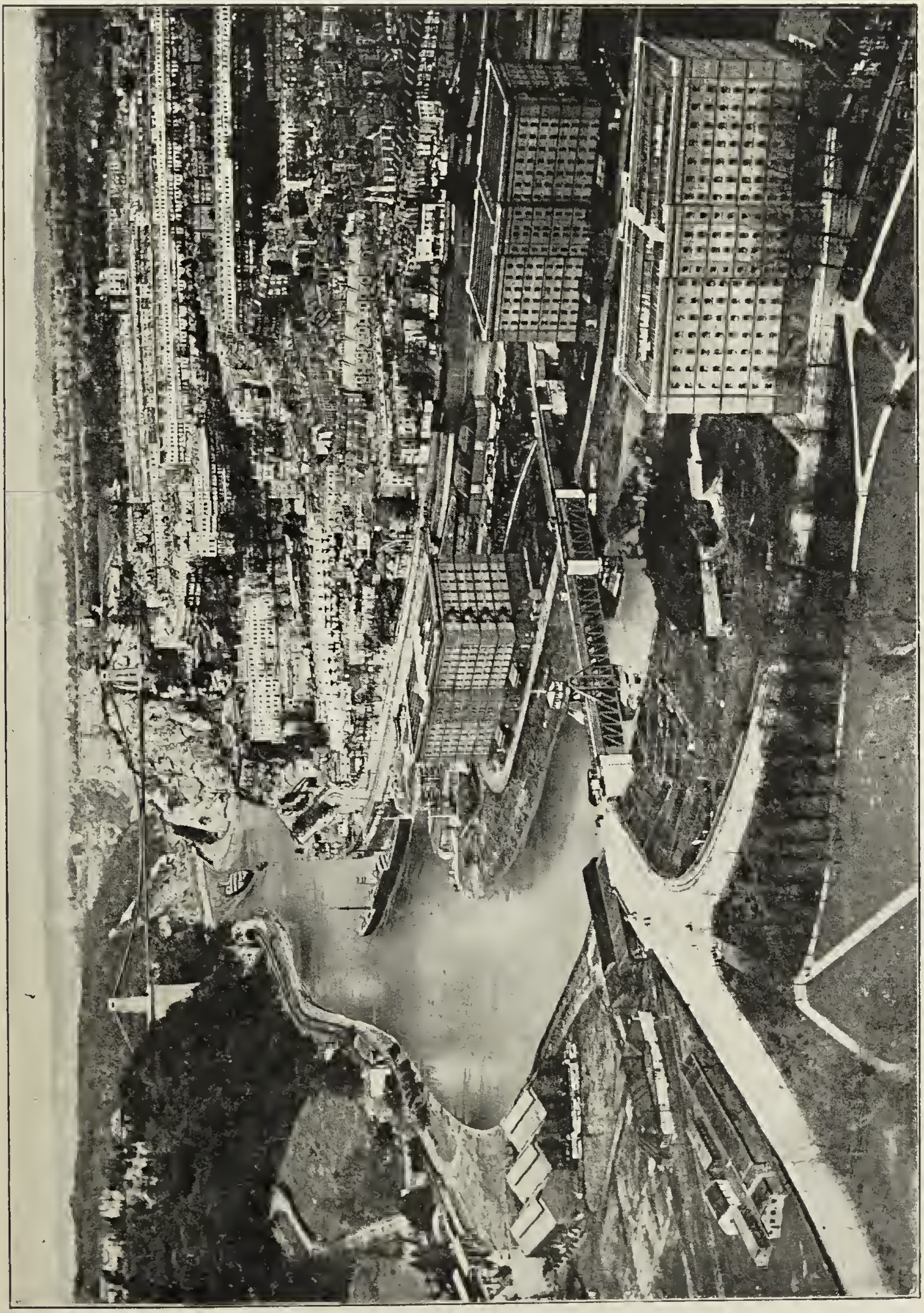
BRIXHAM HARBOUR, DEVONSHIRE, ENGLAND

Photos, G.W. Rly.

RIVERS.

The opposite sides of the island, being necessarily on the same level, and its principal watershed consisting of a mountain chain which extends longitudinally from north to south, it is easy to understand how the general course of the rivers must be in the opposite direction of west or east, according to the slope of the watershed in which they take their rise. In the same way, it is easy to understand how the transverse ridges which branch off from the chain divide the surface into a series of river basins, and by fixing the boundaries, determine the area of each.

In the north the distance between the two shores is so narrow, that there is no room for the formation of an extensive basin, and hence the drainage is effected by a number of comparatively small streams, which, instead of communicating with each other, retain their own independent channels, and proceed directly



By courtesy of Bristol Development Board

BRISTOL

The river Avon and entrance to the City Docks

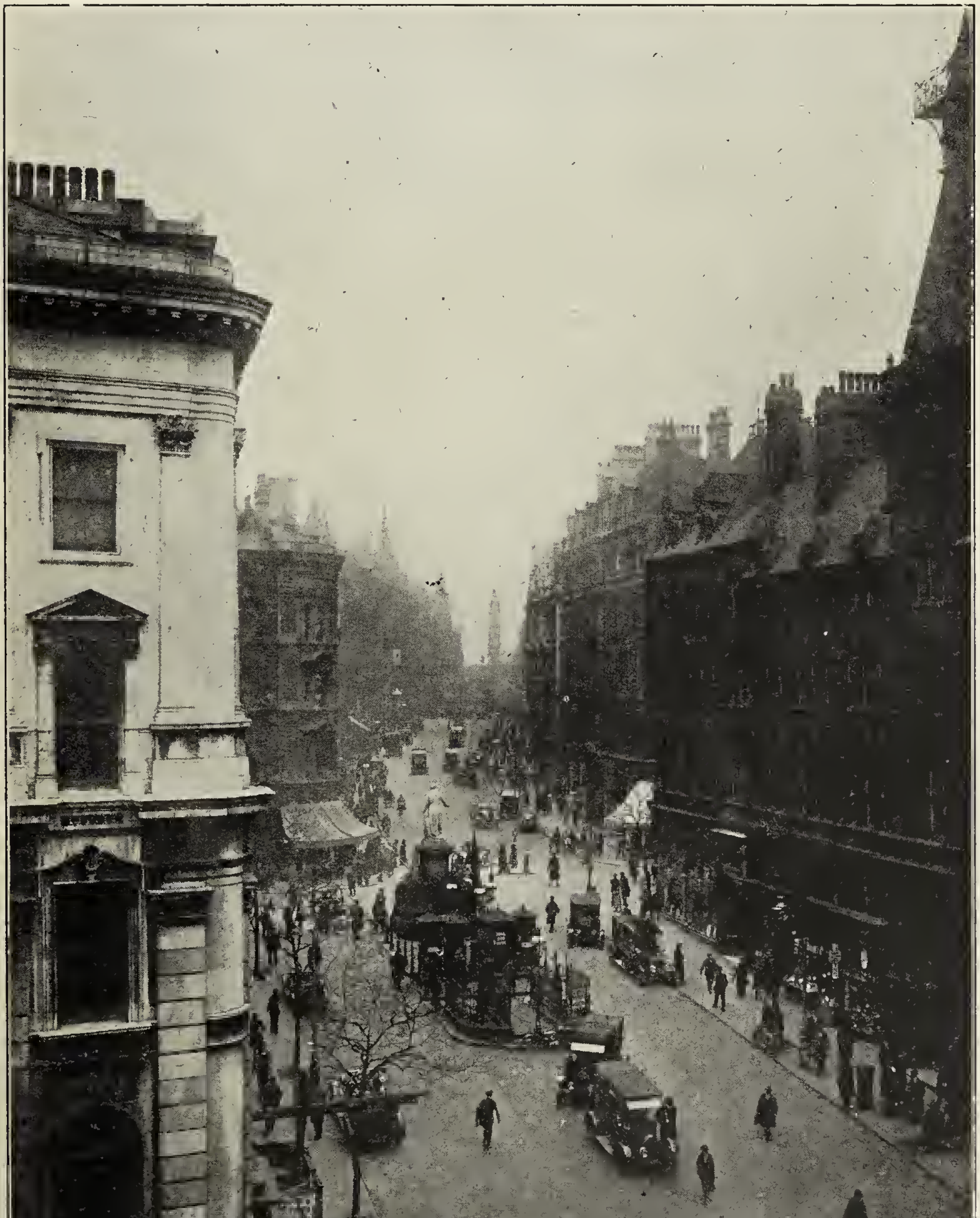
CHELTENHAM, THE PROMENADE

to the sea. The same rule holds in the south, where, by the interposition of transverse ridges, only a very limited tract slopes, so as to send its waters to the English Channel. The extremities of the country being thus excluded, its large basins are necessarily confined to its more central portion. They are four in number—the Thames, Wash, and Humber, belonging to the North Sea; and the Severn, belonging to the Atlantic.

The basin of the Thames has its greatest length from east to west, 130 miles, and its average breadth about fifty miles. It may be considered as commencing west with the river itself, in the Cotswold Hills, and includes on its north side, a considerable part of the north-east of Gloucester, the whole of Oxford, the greater part of Bucks, the whole of Middlesex, almost the whole of Hertford, and the west and south of Essex. Its south side includes the north of Wilts, the whole of Berks, and a narrow belt across the north of Hampshire, with a very small exception the whole of Surrey, and the larger part of Kent. On the south it is bounded by the narrow tract which forms the north basin of the English Channel, and in which the Avon is the principal stream; on the west by the basin of the Severn, on the north chiefly by the basin of the Wash, but partly also by the small independent basins of the Crouch and Blackwater in the east of Essex. Its area is 6,160 square miles.

The basin of the Wash, consisting of the subordinate basins of the Great Ouse, Nen,

CARDIFF, LAW COURTS *Photos, G.W. Rly.*



Photo, by kind permission of the Birmingham Corporation

BIRMINGHAM, CORPORATION STREET

This City, which is situated in Warwickshire, is the principal centre of the hardware trade of the world. It has a municipal area of about 68 square miles, and a population of just under a million. In point of size it is twenty-second among the cities of the world

FOLKESTONE, THE CLIFFS

Welland and Witham, which all empty themselves into that estuary, is of an irregular shape. Its south and larger portion, including the whole three first-mentioned basins, is irregularly oval; while the north portion, confined to that of the Witham, is nearly square. It receives the whole drainage of the counties of Huntingdon, Rutland and Cambridge, almost the whole of those of Northampton and Bedford, considerable portions of those of Lincoln and Norfolk, and a small portion of that of Suffolk. It is bounded, south-east by small independent basins, chiefly those of the Stowe and Yare, south by that of the Thames, west by those of the Thames and Severn, and north-west and north by that of the Humber. Its area is computed at 5,850 square miles.

The basin of the Severn consists of two distinct portions. That on the river-bank is of an irregularly oval shape, and has for its principal tributaries the Teme and the Wye. It commences at Plinlimmon, on the east frontiers of Cardigan, at not more than thirteen miles from the west coast, and includes a large belt on the south and east of Montgomery, the southern half of Shropshire, the western parts of Worcester and Gloucester, the whole of Radnor, Hereford and Monmouth, almost the whole of Brecknock, and the larger part of Glamorgan. The portion of the Severn basin on the left bank borders, in the north, on the basins of the Dee and Mersey, and in the east, on those of the Humber and Thames, and with the exception of its

HASTINGS
View over Town and Promenade

Photo, Southern Rly.

Photochron Co. Ltd.

LIVERPOOL, CHURCH STREET

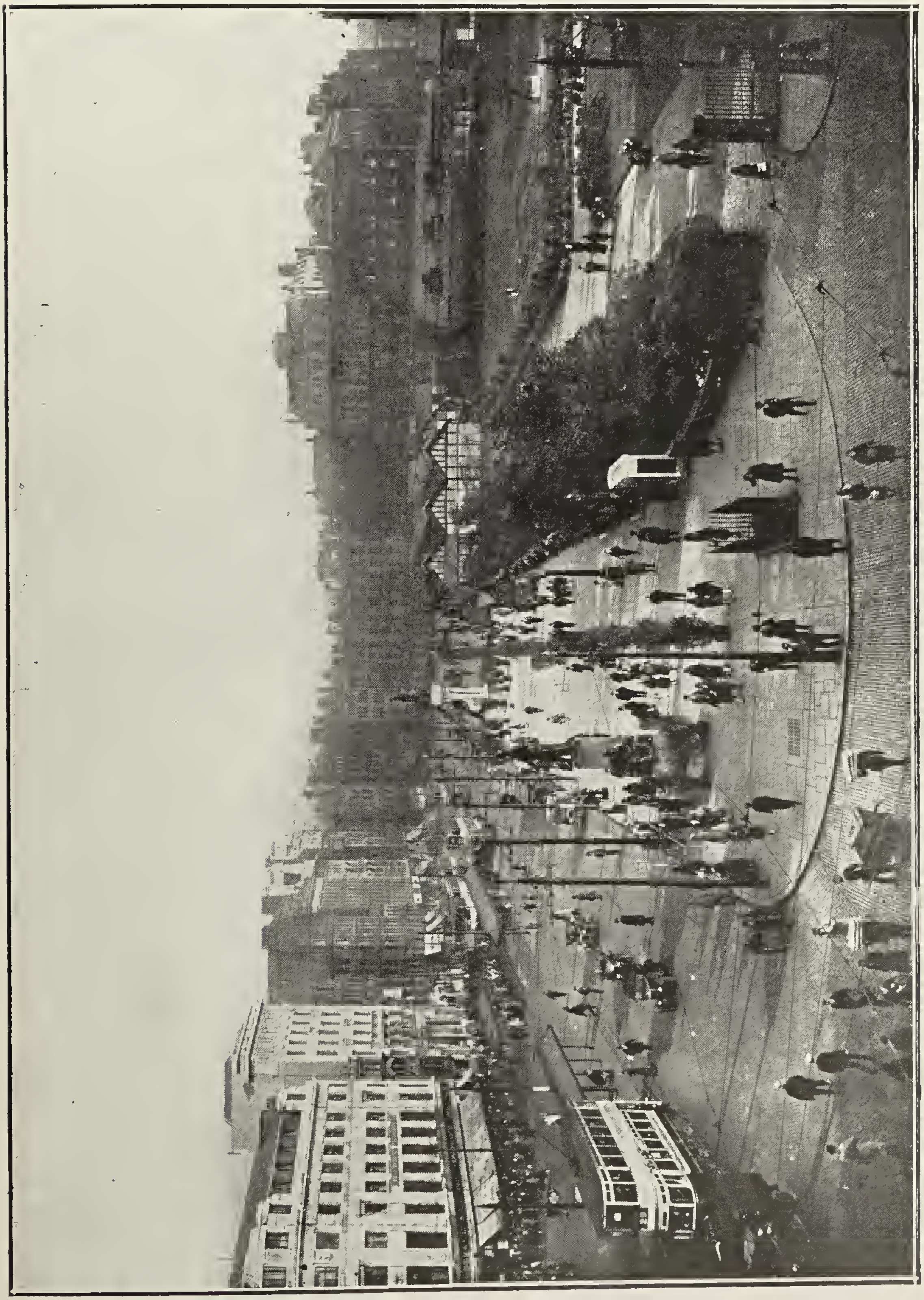
One of the main business thoroughfares of this great city and port

WELLS, SOMERSET
The Cathedral

eastern part, which projects far between the basins of the Ouse and Humber, and is drained by the Upper Avon, consists of an irregular tract, stretching first from west to east, and then from north to south, and so narrow as not to average above twelve miles, and sometimes not to exceed, even in the lower part of its course, as to the east of Gloucester, seven miles. On this bank, accordingly, the present stream has no tributary of the least consequence, with the exception of the Upper Avon already mentioned and the Lower Avon, which only joins it at its estuary. The counties from which this part of the basin receives its supplies, are a part of Montgomery, the northern part of Shropshire, the larger parts both of Worcester and Warwickshire, a long strip of Gloucester, lying between the river and the Cotswold Hills, the north-west of Wilts, and part of the north of Somersetshire. The area of the whole Severn basin is 8,580 square miles.

The next basin, that of the Humber, has the largest area of all. It forms a quadrilateral figure, the longest side of which extends from the west of Warwickshire, a little south of the town of Birmingham, to the north frontiers of Yorkshire, beyond the town of Richmond, 145 miles. Its greatest breadth, measured from the Humber west, is about eighty-five miles. In the north-west, opposite to Morecambe Bay, it approaches within twenty-two miles of the West Coast. It consists of the three basins of the Humber proper, the Ouse, and the Trent, and receives the drainage of at least

HERNE BAY, KENT *Photos, Southern Rly.*



Photo, Dennis & Sons Ltd.

MANCHESTER, PICCADILLY

This Lancashire city is the centre of the world's cotton trade. It has a population of 730,551, and a municipal area of about 34 square miles. It is one of the largest cities in the British Isles and comes thirty-second in point of size among the cities of the world

VENTNOR, ISLE OF WIGHT
View from East Cliff Gardens

three-fourths of Yorkshire, the larger part of Stafford, a part of Warwick, nearly the whole of Derby and Leicester, the whole of Nottingham, and the northern part of Lincoln. On the north it is bounded by the basin of the Tees ; on the west by small independent basins, of which the largest are the Ribble and Mersey ; on the south-west and south by that of the Severn ; and on the south-east by that of the Wash. Its whole area is 9,550 square miles, being about one-sixth of the whole area of England and Wales.*

Capital Cities

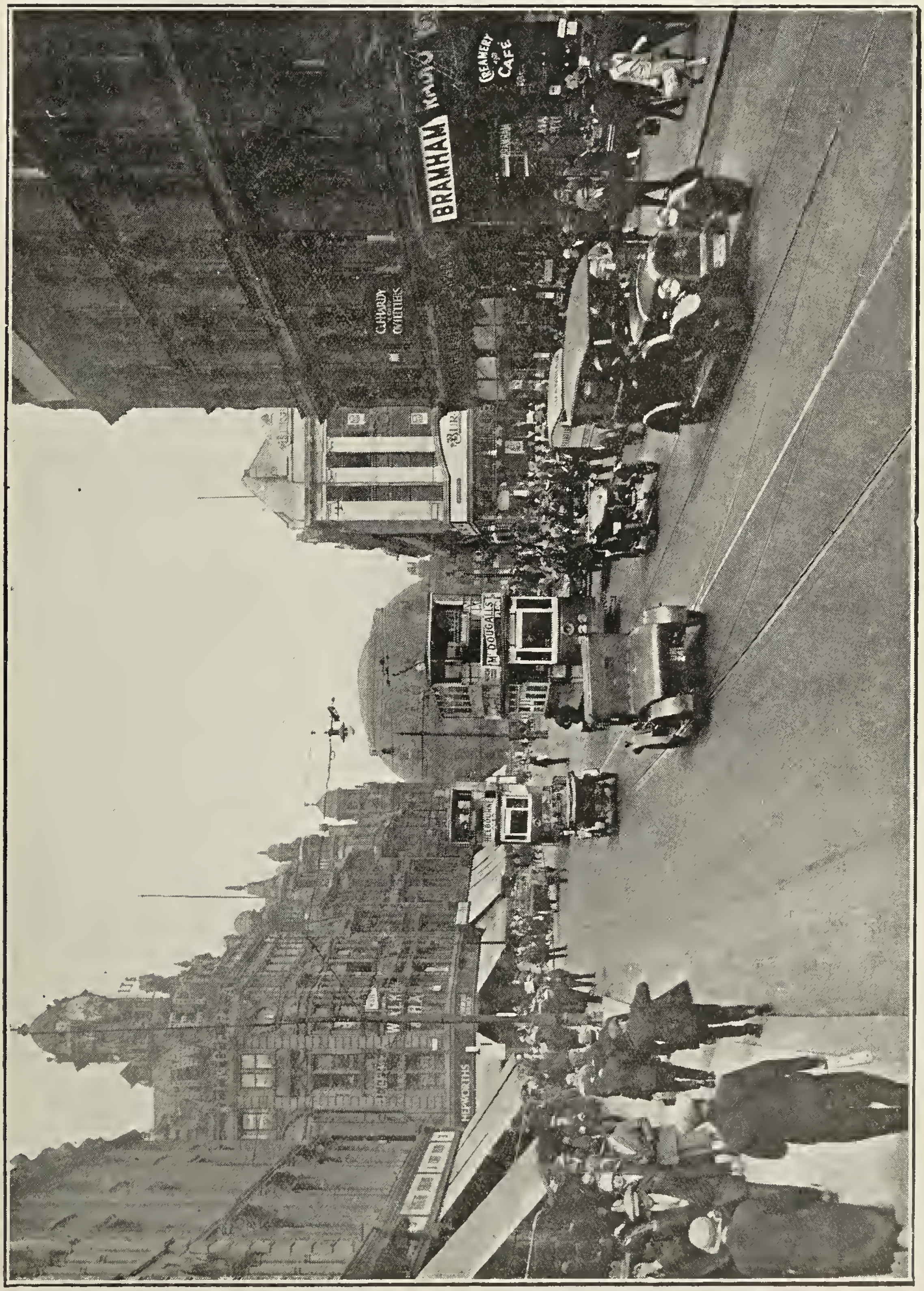
The metropolis of England, and the capital of the whole Empire, is London—the largest city in the world. So interwoven is its past, and so important is its present welfare to the fabric of Empire, that it is dealt with, in this Encyclopedia, fully and separately in later pages. The principal city of Wales is Cardiff, situated at the mouth of the River Taff, in Glamorgan.

This important industrial and commercial centre is also the chief port of the great South Wales coal-fields. It has a population of about 230,000 (including suburbs), and an average of 15,000,000 tons of shipping enter and clear annually. In addition to being the leading coal-shipping port of the world, it has many other important industries, such as ship-repairing, iron-foundries, copper, zinc, lead, tin-plate, patent fuel and rope works, flour and paper mills, chemical factories, and engine-wagon works.

DEAL

Photos, Southern Rly.

* *The Imperial Gazetteer*—Messrs. Blackie & Sons Ltd.


BRAMHAM
RADIO
CREAMERY CAFE
C. HARDY
OUTFITTERS
McDOUGALL'S
HEPWORTHS

Photo, Chas. R. Pickard, Leeds

LEEDS

Junction of two of the principal shopping streets

Photo, Southern Rly.

DOVER, THE HARBOUR FROM CASTLE HILL

Although the history of Cardiff dates back to the Roman occupation, it is, nevertheless, one of the most modern cities in the whole Kingdom. Cardiff Castle, restored in recent times, still retains some of its 11th century features. It was here that Robert Curthose (eldest son of William the Conqueror) was confined for thirty years. Among the principal buildings are the National Museum of Wales (in Cathays Park), the University College of South Wales, the Registry of the University of Wales (*q.v.*), the Law Courts and the Municipal Buildings, with Llandaff Cathedral and Caerphilly Castle in the neighbourhood.

Perhaps the most unique feature of the Welsh metropolis is the fact that although it depends economically very largely on the shipment of coal from the surrounding mines, there is such an entire absence of dust, shafts, trucks, and all the unsightly edifices of a coal-exporting centre, that anyone not particularly interested in this industry, could live in most parts of Cardiff without *seeing* any evidence of its staple product, although it might be more difficult to avoid hearing this valuable commodity discussed in all its scientific and commercial aspects. The value of the overseas trade of this port averages 31 millions sterling a year. (See *Cities and Towns.*)

Communications

The means of communication, both external and internal, are excellent. The roads are well made and well kept; river navigation has been improved by canalisation ; a network of canals exists, especially in the Midlands ; railways radiate in all directions,

THE FAMOUS REGATTA AT COWES, ISLE OF WIGHT Photo, Southern Rly.

The black hull of the King's yacht will be seen among the white fleet

FARGATE, SHEFFIELD

By courtesy of E. J. Eurrow & Co. Ltd., Cheltenham connecting every commercial centre; and postal, telegraphic, telephonic and wireless communications are very complete. Motor traffic is also increasing at a great pace. The railway systems can be followed on the map.

Of the navigable rivers it is only necessary to mention the Thames, with the Port of London—probably the most flourishing river, from a financial point of view, of the Old World,—the Trent, the Tyne, the Severn, and the Mersey. The last named is second only in importance to the Thames, its great port of Liverpool giving it a most prominent position. Indeed, the docks of Liverpool are one of the most wonderful things connected with shipping on the face of the globe, and Southampton is now a formidable rival.

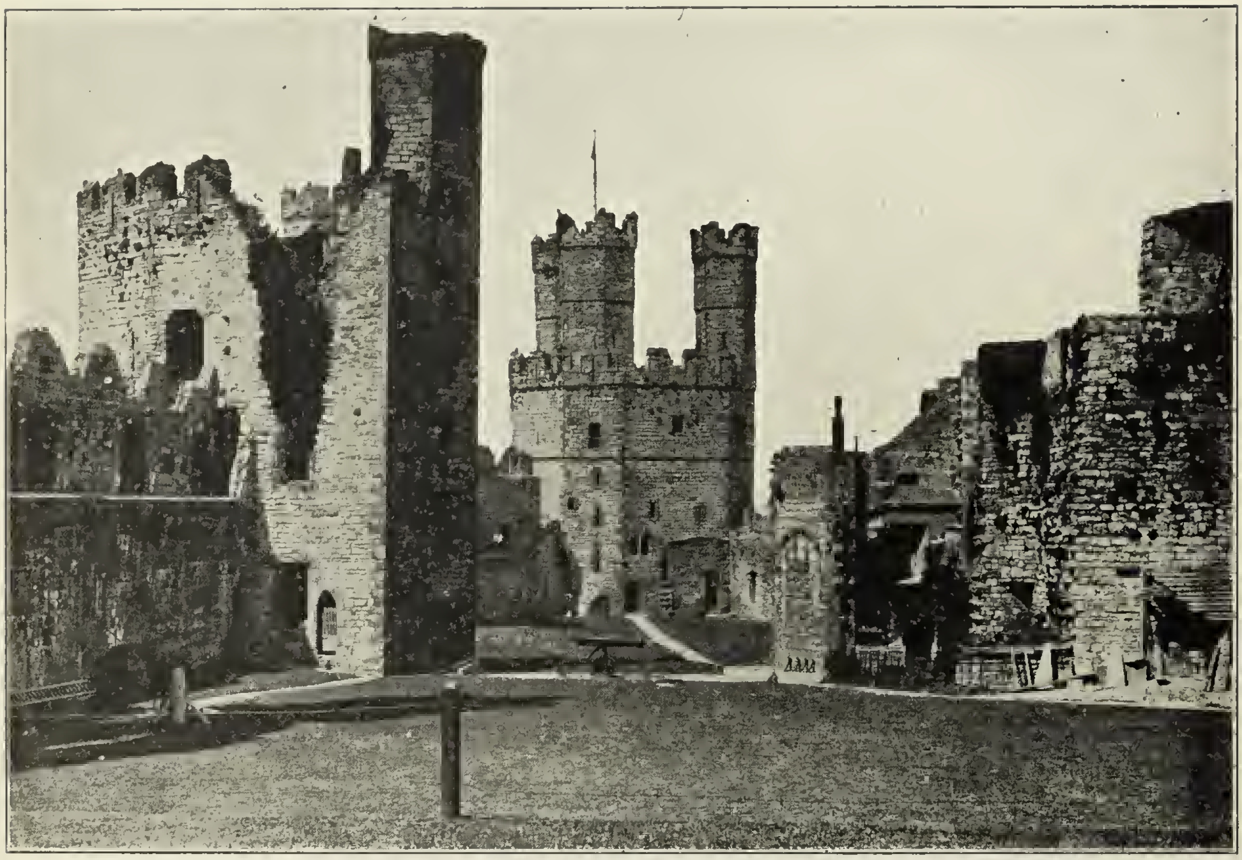
The oldest canal in England is the Foss Dyke, from the Trent to the Witham, at Lincoln. Modern canals date from the opening of the Bridgewater Canal in 1761, and their network is densest in the flat Midlands and industrial Lancashire and Yorkshire. It is possible for barges to cross England from east to west and from north-west to south-east by means of the canalised rivers and canals. The Manchester Ship Canal (opened in 1894) enables large vessels to reach Manchester, thus avoiding "break of bulk." It extends from Eastham on the Mersey, to Manchester, a distance of 35½ miles, and has a minimum water depth of 28 feet. Gloucester is joined to the navigable part of the Severn by the Gloucester and Berkeley Ship Canal. Other important canals are the Lancaster, connecting Preston with Lancaster and Kendal; the Leeds and Liverpool; the Aire and Calder, connecting Goole with Leeds; the Grand Junction, stretching from the Trent to the Thames; the Trent and Mersey; the Shropshire Union connecting the Severn and the Dee with Birmingham; the Thames and Severn; the Kennet-Avon; the Oxford Canal; the Great Western, connecting Bridgwater with Tiverton; the Bude and Launceston; the Wey and Arun; the Bedford River; the Royal Military (Rye to Hythe); and the Bridgewater. Barges are the cheapest and most commodious means of transport (inland) for heavy and bulky goods not needing quick transit; and there is certainly urgent need of deeper and wider canals.

HENLEY, OXFORDSHIRE

Henley Bridge

Photo, G.W. Rly

HIGH LEVEL BRIDGE, NEWCASTLE



CARNARVON CASTLE

Photo, L.M.S. Rly.

TAUNTON, SOMERSET

Gerrard's Cross

Photos, G.W. Rly.

Important cross-Channel routes are Dover to Calais (22 miles), Folkestone to Boulogne (26 miles), Newhaven to Dieppe (67 miles), Southampton to Havre (112 miles), Cherbourg and the Channel Islands; and Weymouth to the Channel Islands. The chief North Sea routes are Hull to Stavanger, Bergen, Copenhagen, Hamburg, Rotterdam, Antwerp, and Zeebrügge; Newcastle to Bergen, Copenhagen, and Hamburg; Harwich to the Hook of Holland, Rotterdam, Antwerp, and Esbjerg for Denmark; and Dover to Ostend. To Ireland the chief routes are Bristol to Cork (228 miles) and Waterford; Fishguard to Rosslare; Holyhead to Dublin (61 miles) and Greenore (70 miles); and Liverpool to Dublin (121 miles) and Belfast; while Liverpool, Barrow, Fleetwood, and Heysham maintain communication with Douglas (Isle of Man). Liverpool, facing America, has great American and Irish trade; Bristol and Avonmouth's trade is largely Irish and West Indian; Southampton is a modern rival of Liverpool, and trades very largely with France, Channel Islands, Mediterranean, South Africa, the United States, South America, and the Far East; London has a large entrepôt and passenger trade with all parts of the world; Hull, Grimsby, and Newcastle have important connections with the northern capitals and ports of the Continent of Europe; and Cardiff, Swansea, Newcastle, and Blyth are the great coal ports.

Fishing and Mining

The seas around Great Britain are prolific in many kinds of fish, and the industry is pursued with great success by a vast army of fishermen, certainly not less than 50,000. There are many well-known fishing ports in various parts of the United Kingdom, particularly Hull, Grimsby, Yarmouth, Harwich, Lowestoft, Ramsgate, Penzance, Plymouth, and St. Ives; but the greatest centre is Billingsgate Market, in London, the largest fish market in the world. Mention must also be made of the fishing grounds of the Isle of Man. The principal North Sea fishing grounds are on the Dogger Bank and in the seas around Iceland. The average annual value of the fish landed in the British Isles each year is about £18,000,000.

England's position in the commercial world is largely due to her great mineral wealth. Coal was utilised at an early stage, and this fact gave the country an enormous lead over the nations of the Continent, for it brought

LLANDUDNO, CARNARVONSHIRE
The Promenade and Pavilion

Photo, L.M.S. Rly.

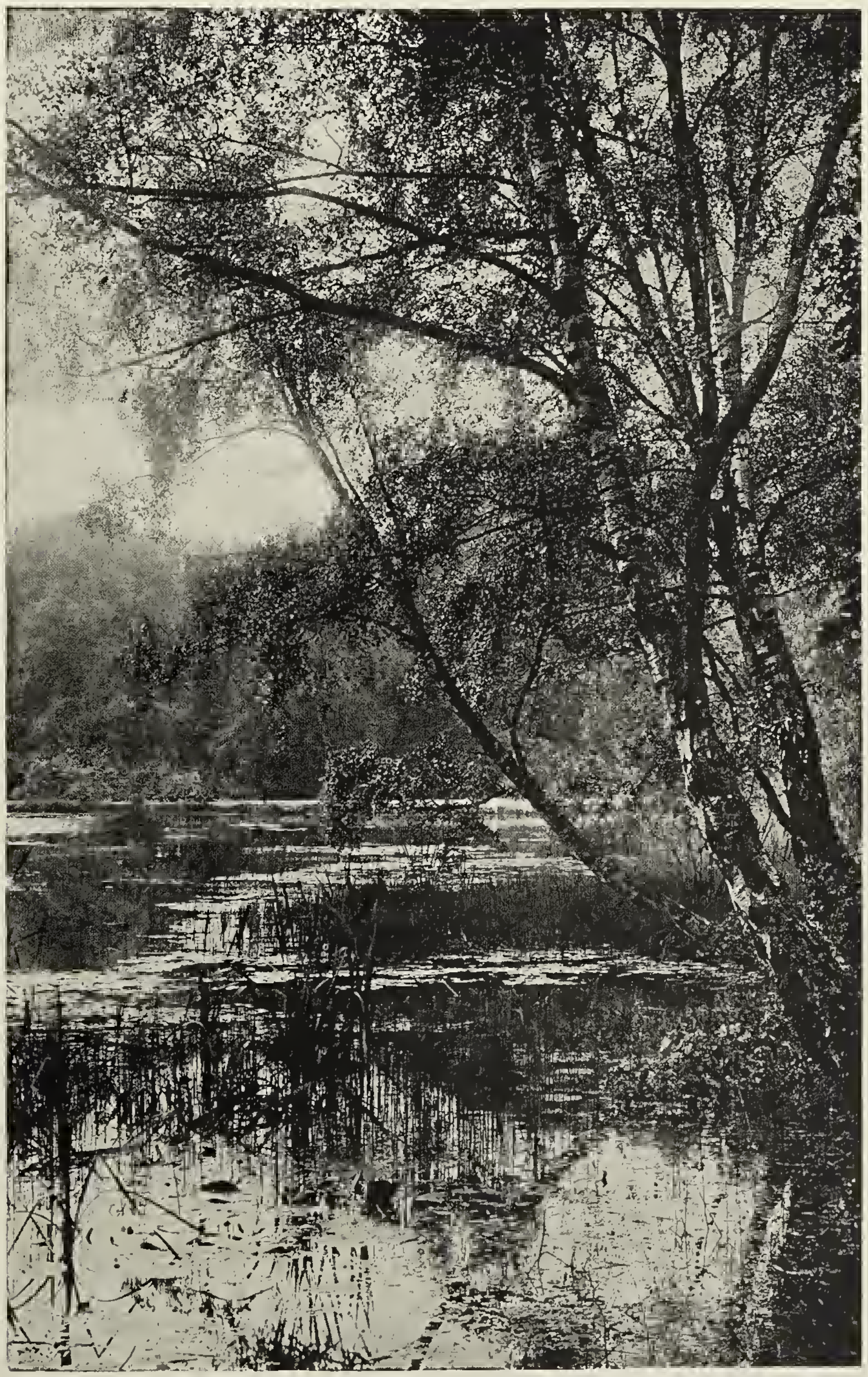
about the localisation of industries, better communications, expanding markets, and the acquisition of colonies. Between 200,000,000 and 300,000,000 tons of coal are raised annually. The principal fields are Northumberland and Durham ; Whitehaven ; Lancashire and North-east Cheshire ; York, Derby, and Nottingham ; North and South Staffordshire ; Warwickshire ; Worcestershire ; Coalbrookdale ; Ashby-de-la-Zouch ; North Wales (Flint and Denbigh) ; South Wales (Taff and Rhondda Valleys) ; Forest of Dean ; Bristol and Somerset. Coal exists in Kent, and is now being worked. Iron is second only to coal in importance. The quantity of ore produced each year is about 10,000,000 tons. The chief iron fields are the Cleveland District of Yorkshire, with Middlesbrough as the centre ; the Furness District of Lancashire, with Barrow as the centre ; South Wales ; Sheffield, Rotherham and Lowmoor ; Staffordshire ; North Wales ; Northampton ; Lincolnshire ; and Forest of Dean. The other minerals obtained are tin (in Cornwall), lead, slate, granite, salt, china-clay, marble, mill-stone grit, building stone, limestone, sandstone, and zinc. The average annual value of the total mineral production is £220 millions. (See also *Agriculture, Mining, Finance* and *Commerce.*)

Tourist Centres

The pleasure and tourist resorts of England and Wales are far too numerous to even give here a list of them. Broadly outlined, they include : (1) the chief seaside towns on the South, East and West Coasts, the position, names and interesting features of which can be seen by referring to the *maps* and the *Gazetteer of Cities and Towns* ; (2) the Lake District ; (3) the Peak District of Derbyshire ; (4) the Upper Reaches of the Thames ; (5) the historic University towns, such as Oxford and Cambridge ; (6) Dartmoor and Exmoor ; (7) the Norfolk Broads ; (8) Stratford-on-Avon and Shakespeare's Country ; (9) North Wales and the Snowdon Range ; (10) the Isle of Wight ; (11) the Isle of Man ; (12) the Channel Islands ; (13) the Surrey

SOUTHAMPTON, HAMPSHIRE *Photo, Southern Rly.*

The Mayflower Monument : where the Pilgrim Fathers embarked for America



BURNHAM BEECHES, BUCKINGHAMSHIRE *Photo, G.W. Rly.*
One of the beauty spots near London

BRIGHTON *Photo, Southern Rly.*
One of the principal seaside resorts on the South Coast

Hills, near London; and (14) the historic Castles, Cathedrals and Abbeys in all parts of the Kingdom. Many of the gems of English, Welsh (as well as Irish and Scottish) scenery can, however, be seen in the illustrations.

Isle of Wight

This island, which has an area of 147 square miles and a population of about 99,000, is situated off the south coast of England, and is divided from Hampshire by the Solent and Spithead. It stands at the entrance to Southampton Water and opposite to Portsmouth, the principal Naval Base of the Empire (*q.v.*). It is an Administrative County of England, and is famous for its beautiful scenery, climate, the great Regatta and Yachting Week held each year at Cowes, and for its small, but picturesque and modern, seaside resorts. The capital is Newport, in the interior of the Island, while Cowes, at the mouth of the Medina, is the chief port. The seaside resorts are Ryde (the principal commercial town), Sandown, Shanklin, Ventnor, Freshwater, Yarmouth, Totland Bay, Bembridge, and Seaview (*q.v.*).

Scilly Isles

This small group of islands forms a dependency of Cornwall. They are distant about 27 miles from Land's End. The group consists of 40 islets, with a total area of 4,000 acres. The five inhabited islands are St. Mary's, St. Martin's, St. Agnes, Tresco, and Bryher. The capital is Hugh Town, St. Mary's. The total population of the group is between 1,800 and 2,000, according to season.

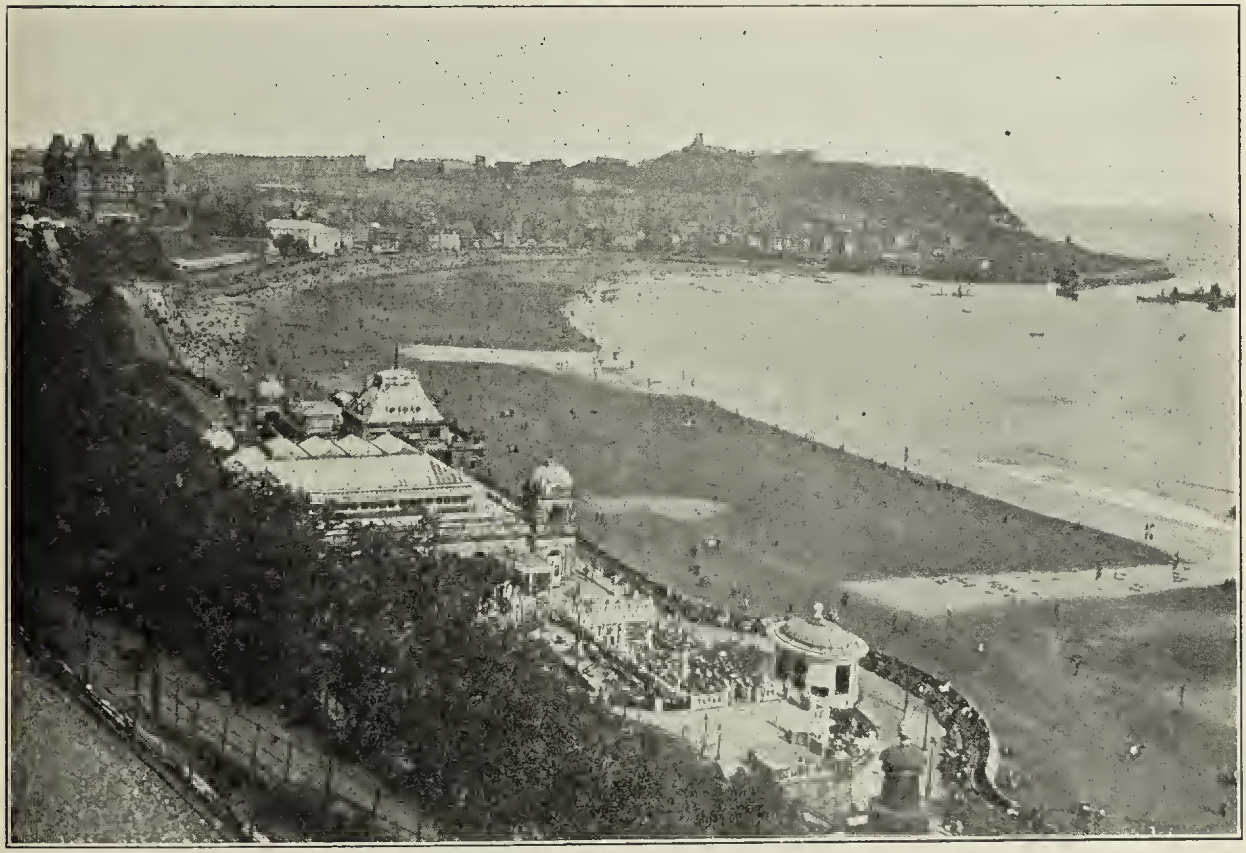
These islands were known to the Greeks as the Hesperides, and to the Romans as

MARGATE *Photo, Southern Rly.*
One of the favourite resorts on the South-east Coast

the *Silures Insulae.* Their climate is moist and warm, with a mean annual temperature of 52 deg. F. Many kinds of sub-tropical flowers and plants flourish. The scenery is exceptionally picturesque, several of the larger islands being covered with cultivated flowers during the early spring. The principal industry is flower culture, and many hundred of tons of blooms, bulbs and seeds are annually shipped to Penzance for transport by rail to the London and provincial markets.

Channel Islands

This group of islands, which forms one of the separate divisions of the Kingdom of Great Britain and Ireland, lie in the English Channel, in latitude 49° N., and longitude 2° W. The principal islands are Jersey, Guernsey, Alderney and Great Sark; but there are several small adjoining islets, notable among which are Herm, Little Sark, Jethou, Brechou, and Lithou, the last being inhabited by a single family. The Channel Islands now form the last remnant of the large Norman Provinces once subject to the Crown of England. They came with the Conquest, and have remained under British rule ever since. The total area of these islands is 73 square miles, and the population numbers about 95,000. They are administered by a Lieutenant-Governor, representing the King (Duke of Normandy), and have local Legislatures, called States. There is also a Royal Court, or judicial body, presided over by the Bailiff, appointed by the Crown. Although French is the official language of the local Legislatures, English is permitted in the Legislative Assembly. These islands are almost exempt from Imperial taxation, and enjoy a relatively large trade. Many of the people still speak the old Norman dialect. The principal English ports for the steamboat lines running to and from these islands are Southampton and Weymouth (summer service). The former is 119 miles distant from Guernsey, and 149 miles (*via* Guernsey) from the principal island of Jersey. They are distant from the French coast 15-30 miles.



Photo, G. F. Cuttle

SCARBOROUGH, SOUTH BAY

One of the chief seaside resorts on the North-east Coast

Scarborough Corporation

BRIDLINGTON
Royal Princes Parade

Photo, Bridlington Corporation

JERSEY.

This is the principal island of the group, and has an area of about 28,717 statute acres. It is 12 miles long and 7 miles broad ; and is about 15 miles from the coast of France. The population numbers about 53,000. It is well-wooded and most picturesque in appearance. The coast line is deeply indented and extremely rugged, especially in the north. There are several beautiful bays —St. Clement's, Grouville, St. Catherine's, Bouley, St. Ouen's, St. Brelade's, and St. Aubin's. The interior is highly fertile, and is intersected by deep and beautiful valleys.

Jersey offers a pretty combination of French and English colouring, with quaint old world customs, side by side with the most modern conveniences and amusements. The climate is peculiarly mild and equable ; the mean annual temperature being about 53 deg. F. Many varieties of sub-tropical plants and palms grow luxuriantly in the open. In addition to the charm of its scenery, Jersey has much of historical interest. There are primitive and Druidic remains, and several old castles. It was here, on 6th January, 1781, that the last battle on English soil was fought. The tomb of the gallant defender of the island, Major Francis Pierson, and that of his French adversary, Baron de Rullecourt, can be seen in the church and churchyard at St. Helier, the capital.

The principal agricultural products of this island are wheat, potatoes and tomatoes ; and the total area under cultivation is approximately 23,000 acres. There are about 2,080 horses, 9,600 cattle, 127 sheep, and 2,883 pigs in the island. The Jersey and Guernsey breed of cows are famous the world over. The exports from the Channel Islands to the United Kingdom amount in average annual value to about £3,500,000 per annum, and consist principally of potatoes, tomatoes, grapes and flowers. The imports from the United Kingdom are valued at £3,900,000 per annum, and consist almost entirely of manufactured goods. The revenue of Jersey amounts to about £240,000 per annum, and the expenditure to £250,000. The Public Debt is approximately £490,000.

TUNBRIDGE WELLS
The Common

The capital is St. Helier, a busy, modern little town, with a good harbour, fine shops, hotels, a theatre, clubs, a promenade, bathing facilities, and other up-to-date conveniences and attractions. It stands in a sheltered bay on the south side of the island. There is no lack of amusements in this bright little town, which has its annual battle of flowers, and other fêtes. As a tourist centre for the Channel Islands and the neighbouring French coast it is unrivalled, regular steamboat communication being maintained not only with Southampton, Weymouth, Guernsey, Alderney and Sark, but also with St. Malo and Granville. The main roads of the island are excellent for motoring and cycling; and the railway facilities are good. Jersey has long been known as the "Happy Land of Fruit and Flowers," and much of its scenery is inimitable. It also provides an object lesson in self-government. Pauperism and crime are of rare occurrence. The famous medical authority, Sir Benjamin Brodie, once wrote : " If you want health for the body, rest for the mind, pure air and splendid scenery—all of God's gifts which go to make a terrestrial Paradise—I emphatically advise you to go to Jersey."

GUERNSEY.

Situated about seventeen miles north-west of Jersey, and the most westerly of the Channel Islands, Guernsey is 9 miles long, about 5 miles broad, and has an area of 15,650 acres. It abounds in sandy bays enclosed by bold and precipitous rocks. Ranking second among the Channel Islands in point of size, its climate is exceedingly mild and equable ; the winters are especially favourable to invalids—the frosts only averaging two a year. Good bathing may be had from the fine beaches and sands. The drives through the many water-lanes of the island, rich with luxuriant flora, are most charming, and many rocks and caves along the coast are also of interest.

A peculiarity of the formation of the island is that the south coast consists of a bold cliff, rising to a height of about 270 ft., and from this elevation the land slopes gently down to the flat beach on the north side of the island.

St. Peter's (or St. Pierre Port), the principal town, which is built in terraces upon a slope, has good hotels ; and bands, concerts, carnivals and *al fresco* entertainments are

GUERNSEY, A COAST SCENE *Photos, Southern Rly*

TRESCO ABBEY RUINS, SCILLY ISLANDS

held during the summer season. There is an 18-hole golf course. The Gothic church is an important specimen of mediæval architecture. At Hauteville House, Victor Hugo lived for many years. Castle Cornet, standing on an island in the harbour, is the old residence of the Governors. In 1672 it was partially destroyed by an explosion of gunpowder, and on the following day the infant daughter of the Governor was discovered asleep among the ruins, unhurt.* The principal agricultural productions of Guernsey are green crops, oats, tomatoes and fruit. The area under cultivation is 14,000 acres ; and there were 1,675 horses, 6,288 cattle, 280 sheep, and 2,510 pigs in the island at the last agricultural census (1917). The revenue averages £300,000, and the expenditure £260,000, with a Public Debt of over £660,000. For administrative purposes the smaller islands, including Alderney and Sark, form dependencies of Guernsey.

ALDERNEY AND SARK.

About these two islands little can be said for they are both very small. Alderney, which is the most northerly of the group, and is distant only ten miles due west from Cape La Hogue, in France, is 4 miles long, $1\frac{1}{4}$ miles broad, and has an area of 1,962 statute acres. The coast line is bold and rocky, rising in many parts to a height of 100–200ft. The soil of the narrow interior is fertile, and good crops of corn and potatoes are obtained. Much of this little island is composed of

ST. AUBIN'S, JERSEY, CHANNEL ISLANDS *Photos, G.W. Rly.*

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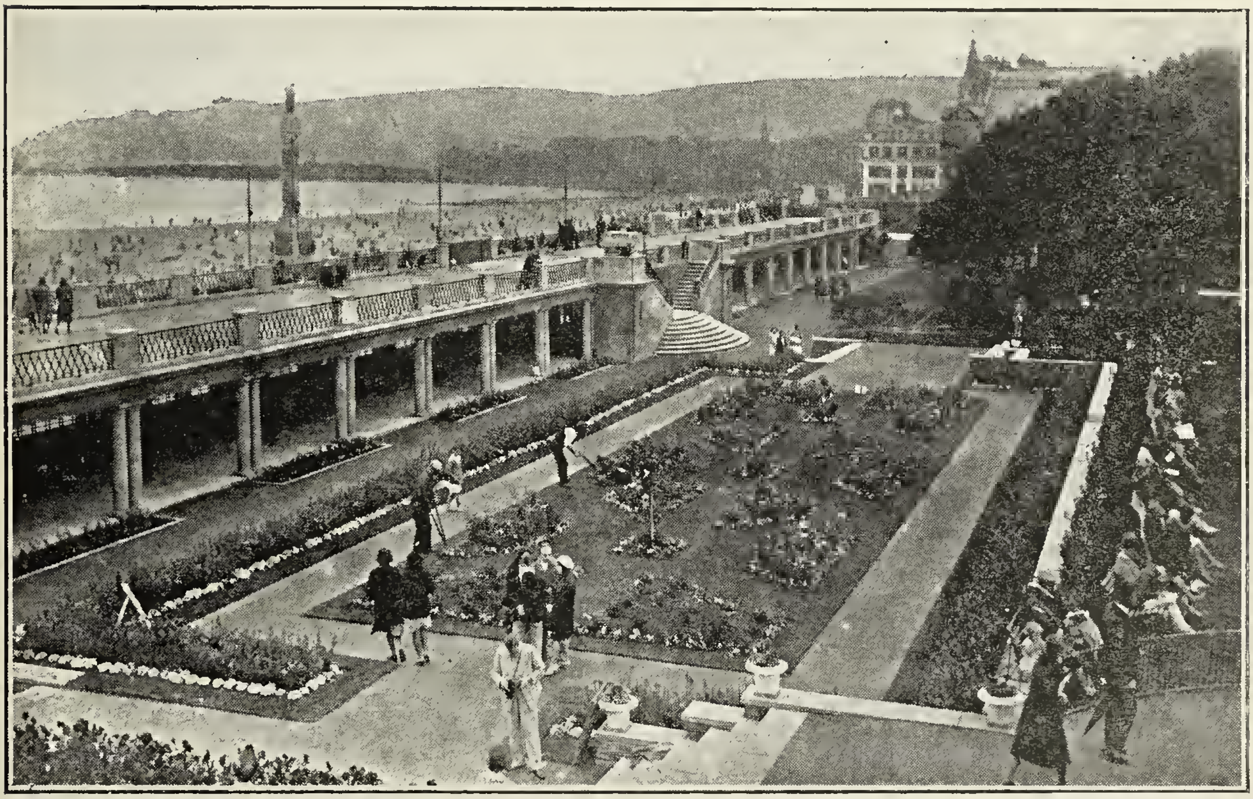
* *Holiday Haunts.* G.W.R.



DOUGLAS, ISLE OF MAN

DOUGLAS HARBOUR, ISLE OF MAN *Photo, Manx Government* grass lands for the famous Alderney cows. The population numbers over 2,500. There is a town in the centre of the island, and a harbour for vessels at Crabley. The French language and customs prevail. About six miles north-west of Alderney are the dangerous Casket rocks.

The Island of Great Sark is distant about six miles east of Guernsey, and is 3 miles long, and varies in breadth from a few yards to 1½ miles. It has a total area of 1,035 acres. The coast line is formed by abrupt cliffs, rising to a height of 300 ft., deep valleys intersect the high ground. The soil is fertile and apples and vegetables are grown. The steamer from Guernsey lands passengers at Creux Harbour, whence a tunnel leads through the high cliffs to the interior of the island. The coupee, a natural causeway 100 yards long but only from 10 to 15 feet wide, has a precipitous descent of about 290 feet on either side. The Gouliot Caves are remarkable for their wonderfully coloured Zoophites. Dixcart Bay, the Creux Derrible, and the Seigneuric, or Manor of the Lord of Sark, are also points of interest.

VIEW FROM THE ISLAND OF SARK, SHOWING BRECHOU, HERM AND JETHOU *Photo, Southern Rly.*

The population of this picturesque little island with that of the islets of Brechou (74 acres), Little Sark (239 acres), Herm (320 acres), Jethou (44 acres) and Lithou (38 acres) numbers about 600.*

Isle of Man

The fourth division into which Great Britain is divided for general administrative purposes is formed by the Isle of Man, which is situated in the Irish Sea (latitude 54° 4′ N., and longitude 4° 36′ W.), midway between England and Ireland. It is approximately 34 miles in length and from 7 to 12 miles in breadth, and has an area of 227 square miles, with a population of 50,000.

Early in the ninth century it was inhabited by Norwegians who had emigrated from Norway to the Western Islands of Scotland. They grew prosperous and incurred the envy and displeasure of Harold, King of Norway, who despatched a powerful expedition which conquered the Scottish Islands (Orkneys, Shetlands, Western Isles, and Man) in 870. All of these islands remained under Norwegian rule for fully three centuries; but the victory of the Scottish King, Alexander III, over the Norwegian Haco, at the famous battle of Largs (1263), caused all these islands to come under Scottish rule. Henry IV, of England, seized the Isle of Man and presented it to the Stanley family, from whom it passed to the Duke of Atholl in 1736, and later to his daughter Charlotte. It was partly purchased by the British Parliament in 1765 for the sum of £70,000; and in 1827 it was finally sold to the Crown for £417,144. It is rich in both mineral and agricultural land. The cultivated area is about 82,612 acres.

The Isle of Man is governed by a Legislature, called the Tynwald, which is divided into "The Governor and Council," and the "House of Keys." Bills must pass both Houses before being sent to London for the Royal Assent, and must be signed by the legal quorum of each House, which, in the case of the Upper House, consists of the Governor and two members, and in the Lower House of thirteen members, being the majority out of the total membership of twenty-four. Even after these stages have been passed a Bill does not become law until it has been promulgated on Tynwald Hill in both the English and Manx languages. A certificate of promulgation must be signed by the Governor and the Speaker of the House of Keys.

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* The names of some of these smaller islands are sometimes spelt—Lihou, Burhou, etc.

The natives of Man are Celtic and Norwegian in origin, and in the language, which is known as Manx, Celtic is predominant. English is, however, spoken all over the island.

The public revenue averages about £290,000 per annum, and the expenditure about £270,000. The Public Debt stands at about £48,000. There is about forty-seven miles of railway line in operation and about twenty-five miles of electric tramway.

The northern coast is composed of low-lying sand dunes, while in the south magnificent cliffs rise abruptly from the sea to a height of over 1,000 ft. "But the chief glory of Manx scenery is to be found in its lovely glens, which are everwhere in evidence. The Isle of Man railways run to Ramsey, embosomed in delightful hills, and furnished with a magnificent stretch of sand; Peel, the old-world and picturesque fishing port; Port St. Mary, the delight of the artist; Castletown, with its grand castle, the most perfect of feudal stronghold palaces in the British Isles; and Port Erin, famed for its beautiful bay. Scattered all over the island are pretty and secluded hamlets, such as Dalby, Ballasalla, Kirk Michael, Ballaugh, and Soulby. The electric railway opens up many of the most charming of the glens of Manxland. The sea-water surrounding this pretty island is of exceptional purity and marvellously clear, the sea-bed being clearly discernable at a depth of 60 ft."*

Douglas, the capital, has a resident population of just under 21,000, which is very largely increased by visitors during the summer months.

Among the many points of interest in this island must be mentioned Laxey, with its beautiful glens, its silver-lead mines, and the electric mountain railway to the summit of Snaefell; the highest point in the island (about 2,000 ft.).

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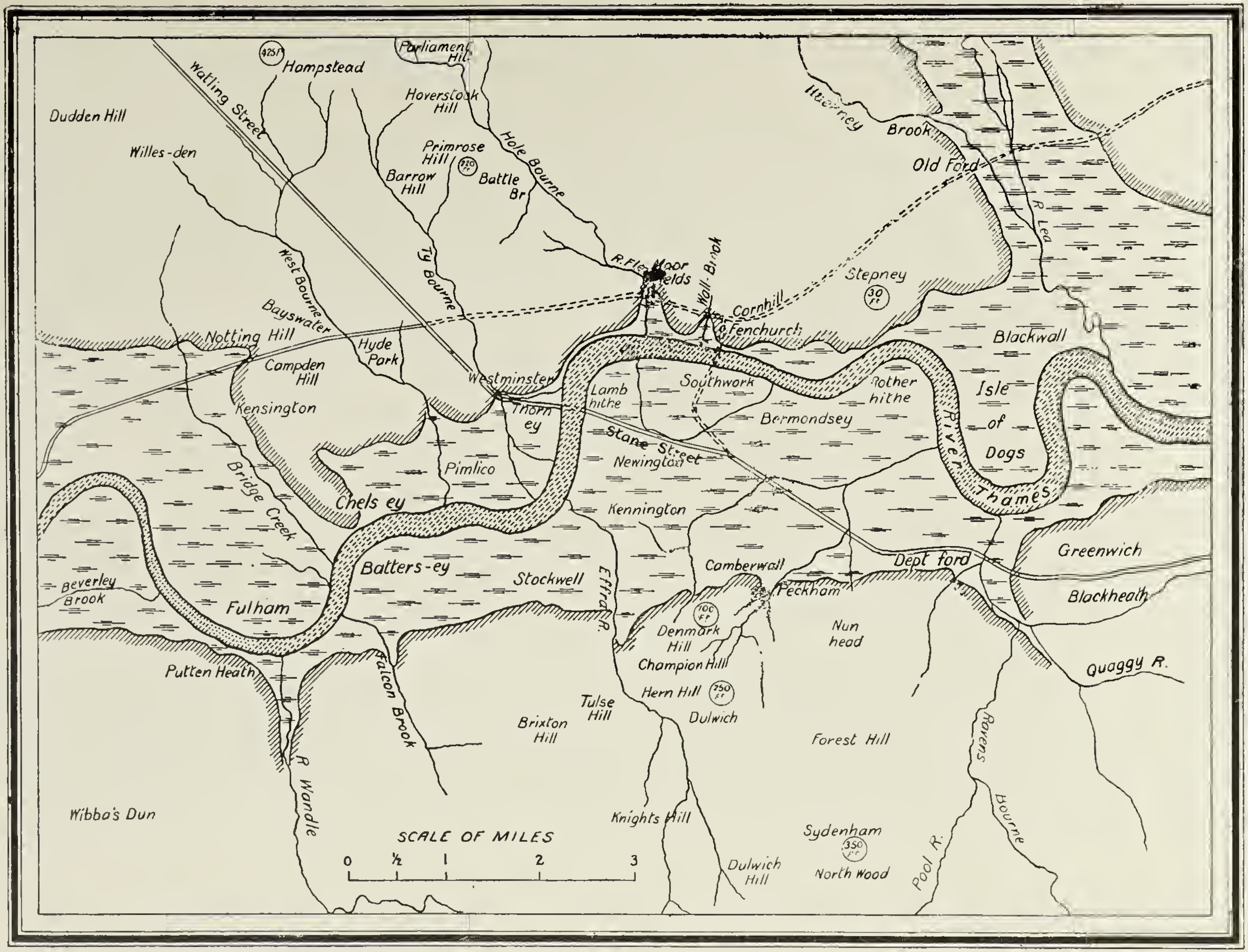
* *Isle of Man.* L.M.S.R. Co.

LONDON

THE IMPERIAL METROPOLIS

LONDON is the largest city that has ever existed. Although there remain no reliable records of the great cities of the ancient world, such as Thebes, Babylon, or Memphis, it has never been seriously urged that they rivalled London in actual size. However much they may have surpassed her in monumental endurance, or in grandeur of architecture, they did not even approach the huge bulk of the Empire's great metropolis. Few people—even among those living in London—have an adequate idea of its tremendous size. Let us first consider the ADMINISTRATIVE COUNTY OF LONDON. This is really only a part of the whole, for it excludes many large districts, but it serves to furnish us with a defined area as to which certain statistics are published. The area is approximately 74,850 acres, or 117 square miles. It contains 2,234 miles of streets, and 682,591 houses, in which 5,000,000 people are sheltered and work out their destiny. It has 329 railway stations. THE METROPOLITAN POLICE DISTRICT comprises an area of 446,626 statute acres, or about 699 square miles, with a population of about 8,000,000. The Police Force protecting this enormous city numbers about 35 superintendents, 664 inspectors, 3,000 sergeants, and over 16,000 constables, exclusive of the detective staffs; with a mounted brigade 300 strong. When extra police are needed, as during the Great European War, 300,000 to 400,000 special constables are enrolled, and there is a Metropolitan Special Constabulary Reserve numbering, in all, about 24,000 men. THE LONDON FIRE BRIGADE alone consists of 2,260 officers and men, 62 land fire stations, 3 river stations, with about 270 engines, escapes and fire-floats. THE METROPOLITAN WATER BOARD supplies 260 million gallons of water a day to districts having an area of 561 square miles with a population varying between seven and eight millions. THE COUNTY OF LONDON is administered by the London County Council, comprising 144 members. The gross debt incurred by this body (London) is about £62,000,000, with a Sinking Fund of £31,900,000 (approximate figures). The annual expenditure is about £28,000,000. THE METROPOLITAN MAIN DRAINAGE SYSTEM extends over an area of about 149 square miles, and there are nearly 370 miles of main sewers. The capital outlay on the drainage of London up to 1930 was approximately £17,000,000. THE STREET TRAMWAY SYSTEM extends over 170 miles. The capital outlay for this transit system was (1930) £17,000,000, and the debt outstanding between eight and nine millions sterling. The number of passengers carried averages between 400,000,000 to 500,000,000 per annum. THE ELEMENTARY EDUCATIONAL SYSTEM provides for the education of over 740,000 children, at a cost of about £4,500,000. The efficiency of the organisations protecting the public health may be best gathered from the average statistics of the birth and death rates

SITE ON WHICH LONDON IS BUILT


Hampstead
425 ft
Parliament Hill
Dudden Hill
Willes-den
Watling Street
Hoverstock Hill
Primrose Hill
320 ft
Barrow Hill
Battle Br
Hole Bourne
Hackney Brook
Old Ford
R Lea
R. Fleet
Moor Fields
Wall-Brook
Cornhill
Fenchurch
Stepney
30 ft
Blackwall
West Bourne
Ty Bourne
Bayswater
Hyde Park
Notting Hill
Campden Hill
Kensington
Westminster
Thorn ey
Lamb hithe
Southwork
Rother hithe
Bermondsey
Isle of Dogs
River Thames
Stane Street
Newington
Pimlico
Chels ey
Kennington
Bridge Creek
Batters-ey
Stockwell
Effra R.
Camberwall
Peckham
Dept ford
Greenwich
Blackheath
Beverley Brook
Fulham
Denmark Hill
100 ft
Champion Hill
Herne Hill
250 ft
Nun head
Quaggy R.
Putten Heath
Falcon Brook
Tulse Hill
Brixton Hill
Dulwich
Forest Hill
Ravens Bourne
R Wandle
Wibba's Dun
SCALE OF MILES
0
½
1
2
3
Knights Hill
Dulwich Hill
Sydenham
350 ft
North Wood
Pool R.

SPECIALLY DRAWN FOR THE ENCYCLOPEDIA OF THE BRITISH EMPIRE BY A.H.LEE

⚌ Denotes what was originally marsh-land of a few of the principal cities of the world, compared with those of London :—

City.	Births.	Deaths.
London	24.2	14.0
Dublin	28.6	20.9
Edinburgh	20.9	15.3
Berlin (pre-war)	21.6	15.1
Brussels	16.8	13.9
Buenos Aires	35.5	15.7
New York	26.9	16.2
Paris	17.7	17.4
Rome	22.7	19.3
Petrograd (pre-war)	27.8	24.6
Vienna (pre-war)	22.1	16.8

The statistics of London are far too large to convey a clear idea of the composition and extent of this immense city, but they may be more readily appreciated by comparing them with those of the city or town in which the reader lives, or knows best. (See under *Cities and Towns of the Empire.*) Or try another test ; the magnificent view over London which is obtained from Greenwich Park is well known. Beyond the winding of the river spreads the great city completely filling the horizon from right to left, and far away St. Paul's Cathedral is silhouetted upon the sky line. Between it and the place of observation is a huge mass of buildings stretching away north and south as far as the eye can reach. It is almost impossible to imagine a city of such enormous magnitude, and yet St. Paul's, which appears to mark the furthest boundary, is really in the centre of the city, and beyond it stretches another city as vast as that which fills the picture before one. Imagination tires in the effort to grasp the immensity of London, the giant organism of bricks and mortar, which grows and still grows, devouring field and hedgerow—filling the valleys, covering the hills, and planting many a teeming centre of metropolitan life where stood the quiet country hamlet. But it is no youthful giant, nor was it always a giant ; and there were days when it lay a tiny infant weak and helpless, unable to protect itself against the fierce enemies which threatened it on every side.

BIRTH OF THE WORLD'S GREATEST CITY.

To find the infant city we must go back more than 2,000 years. Before the great Caesar set foot on British soil, our wild forefathers had built their piled dwellings and mud and wattle huts on a patch of rising ground which offered them the best available protection against their wilder neighbours. Near the spot where stands the Cathedral of St. Paul, we should have found the poor cradle of the babe that was one day to rule an empire greater than that of Rome itself. On this hill, rising about sixty feet above the sea-level, the Britons established their Lake-fort or Lyndyn, in a spot admirably adapted for defence. To the east and west it was protected by the ravines of the Walbrook and the Fleet, behind it the treacherous marshes of Finsbury guarded against attack from the rude tribes inhabiting the dense forest which covered the high lands of Middlesex. In front, the broad lagoon of the Thames estuary, with steep clay banks, served at once as a highway for their primitive commerce, and as a defence against the secret approach of enemies.

The men who lived here were Britons, a race whose descendants are still with us in the Highlands of Scotland and Wales. Nothing certain is known as to the age of the little town ; tradition speaks of its having been founded by Brutus, the Trojan, and ruled by King Lud and King Belin, whose names survive in Ludgate and Billingsgate—but in any case it had probably existed for a very considerable time, as on the arrival of the Romans they found it a flourishing trade centre exchanging commerce with the merchants of Gaul. The little town extended by the edge of the river along the half-mile from the Walbrook to the Fleet, and back to Moorfields, a dreary fen seamed only with a few rough cattle tracks. Such was London town when the Romans colonised Britain in 43 A.D.

Mr. J. George Head, the well-know historian of London, gives the following account of the early history of the now Imperial city.*

ROMAN LONDON.

They fortified the hill on the east side of the Walbrook, erecting a walled citadel where now lie the busy marts of Lombard Street and Leadenhall. Before the high civilisation and luxurious refinement of Imperial Rome, the primitive habitations of

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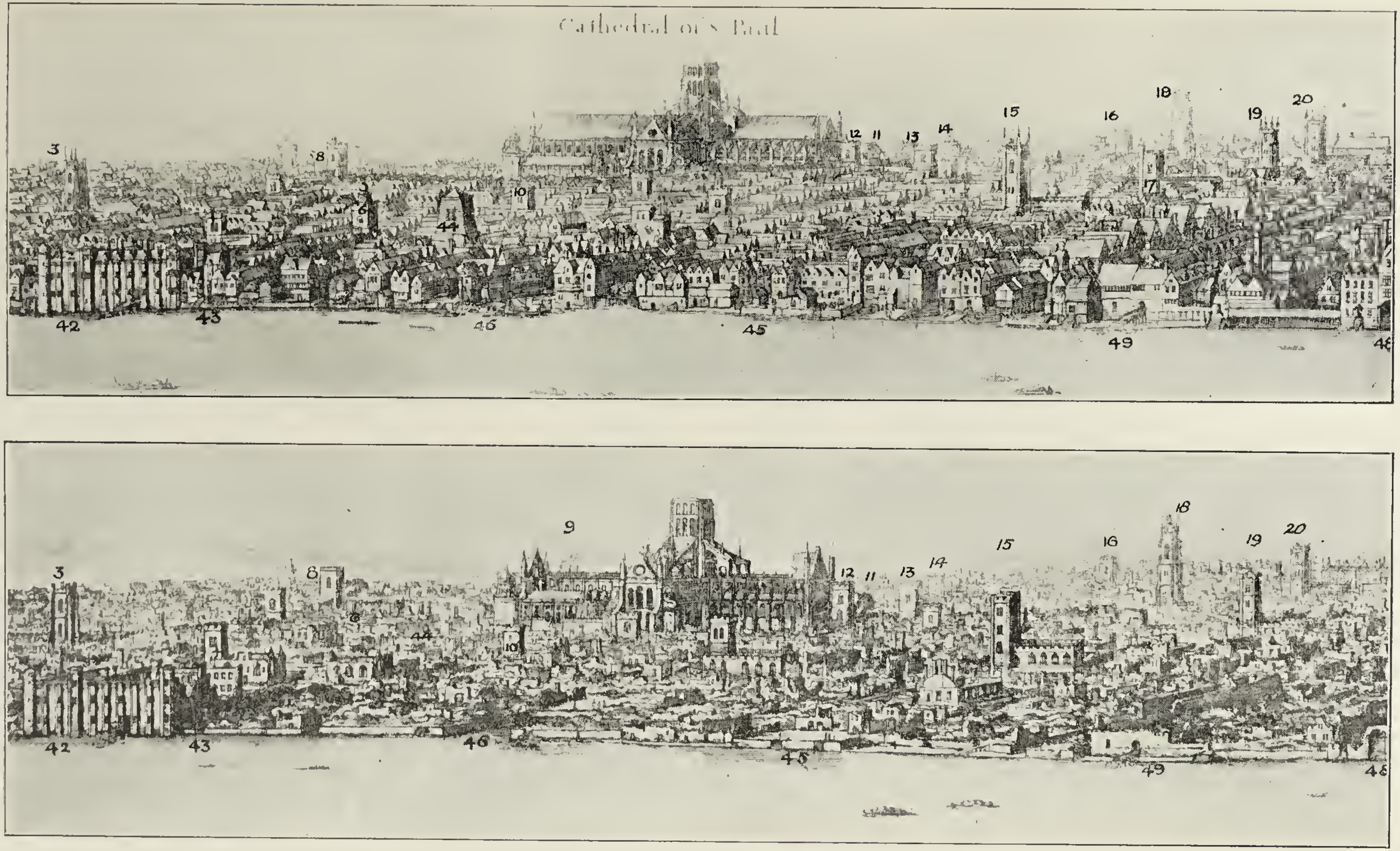
* " Giant London," by J. G. Head, Surveyors' Inst. Trans.

LONDON BEFORE AND AFTER THE GREAT FIRE

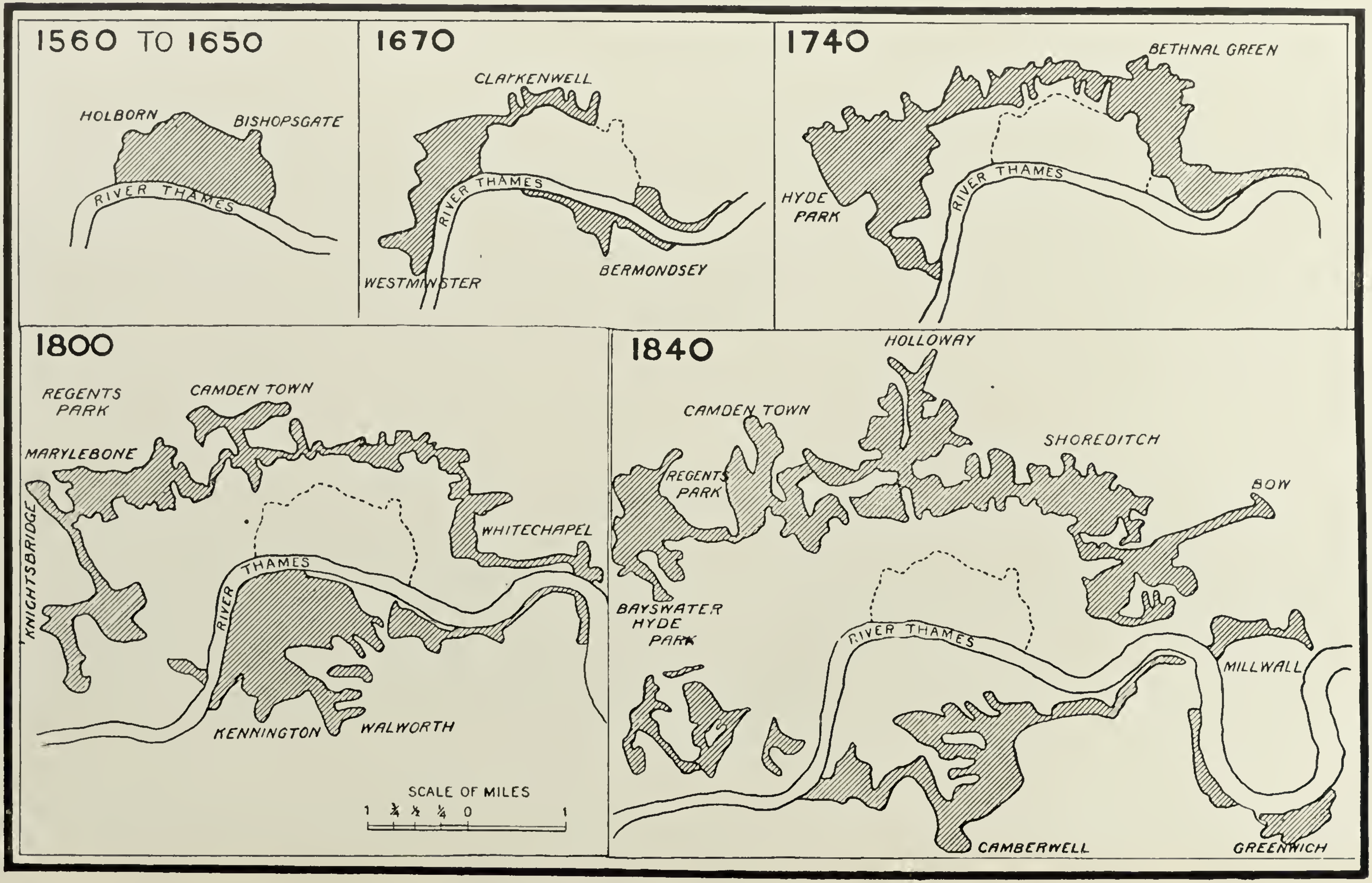
(From Old Prints)



1 Temple Church 2 S. Dunstan's West 3 S. Bride's 4 S. Benot 5 S. Andrew in Wardrop 6 S. Peter's in Tham Street 7 S. Martin's by Ludgate 8 S. Andrew in Holborne 9 S. Pulcher's 10. S. Nicholas 11 Christ Church 12 S. Augustine's 13 S. Foster 14 S. John Zachary 15 S. Martin's in Thames Street 16 S. Mary Alderman 17 S. Thomas Apostles 18 Bow Church 20 S. Lawrence 21 S. Mary, Butolf Lane 22 Allhallowes y' great 23 S. Steven's, Colman Street 24 S. Margaret 25 S. Mary Walnoth 26 S. Lorence Poultry 27 S. Steven's in Walbroke 28 S. Christopher 29 S. Bartholomew 30 S. Edmund's 31 S. Michael, Cornhill 32 Allhallowes 33 S. Peter's in Cornhill

MAP SHOWING THE GROWTH OF LONDON From 1560 to 1840

Shaded portions show areas built over from date given on previous map

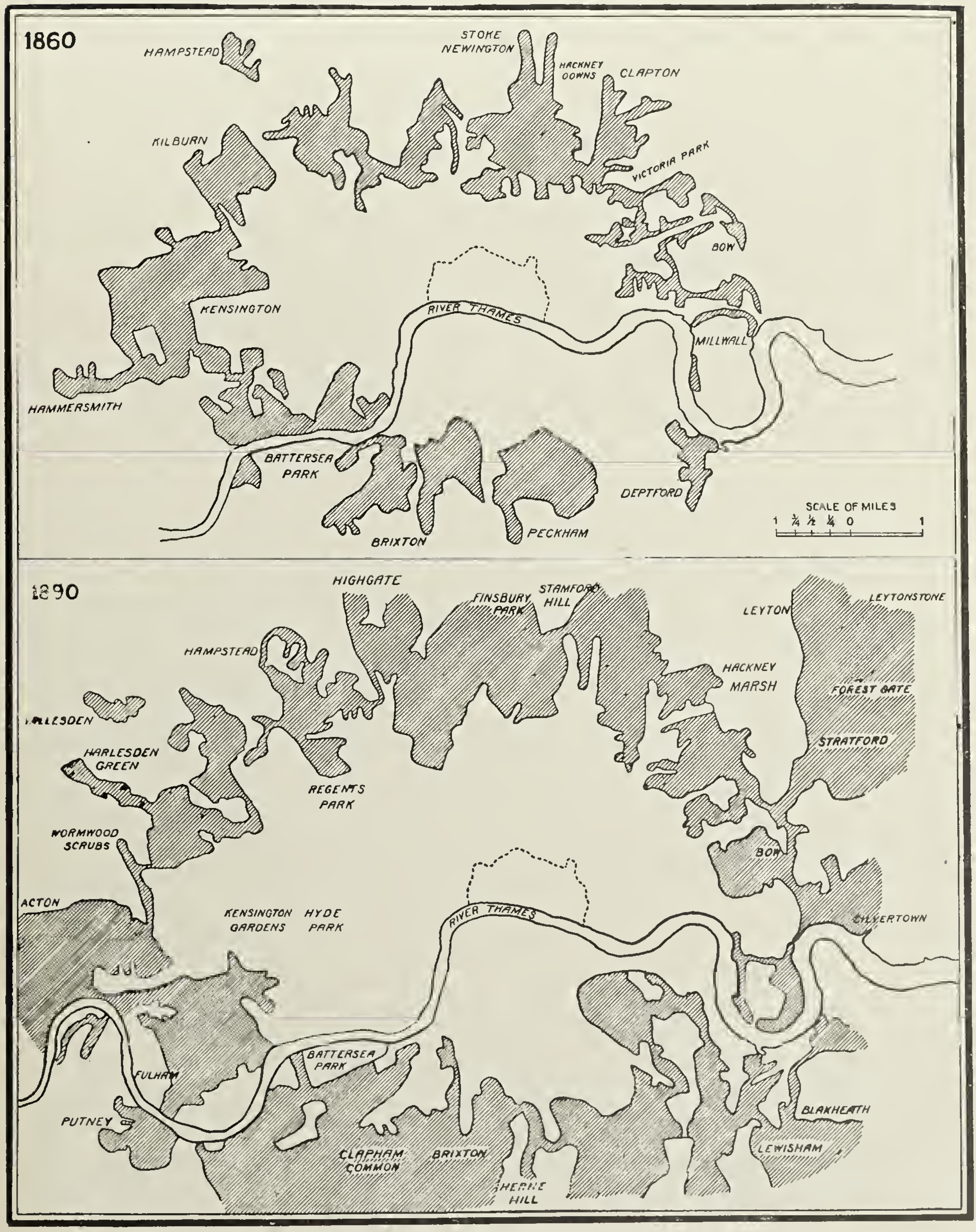

1560 TO 1650
HOLBORN
BISHOPSGATE
RIVER THAMES
1670
CLARKENWELL
RIVER THAMES
WESTMINSTER
BERMONDSEY
1740
BETHNAL GREEN
HYDE PARK
RIVER THAMES
1800
REGENTS PARK
CAMDEN TOWN
MARYLEBONE
KNIGHTSBRIDGE
WHITECHAPEL
RIVER THAMES
KENNINGTON
WALWORTH
SCALE OF MILES
1 ¾ ½ ¼ 0 1
1840
HOLLOWAY
CAMDEN TOWN
SHOREDITCH
REGENTS PARK
BOW
BAYSWATER
HYDE PARK
RIVER THAMES
MILLWALL
CAMBERWELL
GREENWICH

SPECIALLY DRAWN FOR THE ENCYCLOPEDIA OF THE BRITISH EMPIRE BY A.H.LEE.

MAP SHOWING THE GROWTH OF LONDON

From 1868 to 1900

Shaded portions show areas built over from date given on previous map


1860
HAMPSTEAD
STOKE NEWINGTON
HACKNEY DOWNS
CLAPTON
KILBURN
VICTORIA PARK
BOW
KENSINGTON
RIVER THAMES
MILLWALL
HAMMERSMITH
BATTERSEA PARK
DEPTFORD
SCALE OF MILES
1 ¾ ½ ¼ 0 1
BRIXTON
PECKHAM
1890
HIGHGATE
FINSBURY PARK
STAMFORD HILL
LEYTON
LEYTONSTONE
HAMPSTEAD
HACKNEY MARSH
FOREST GATE
ILLESDEN
HARLESDEN GREEN
STRATFORD
REGENTS PARK
WORMWOOD SCRUBS
BOW
ACTON
KENSINGTON GARDENS
HYDE PARK
RIVER THAMES
SILVERTOWN
BATTERSEA PARK
FULHAM
PUTNEY
BLAKHEATH
CLAPHAM COMMON
BRIXTON
LEWISHAM
HERNE HILL

SPECIALLY DRAWN FOR THE ENCYCLOPEDIA OF THE BRITISH EMPIRE BY A.H.LEE.

the natives began to disappear, and in their place rose the more imposing buildings of their conquerors. The highlands on both sides of the Walbrook were occupied by wealthy inhabitants, and the excavator's pick has revealed traces of their villas in the mosaic pavements, bathing places, ornaments of metal and pottery, and other evidences of luxurious occupation.

The name of Lyndyn was first Latinised into Lundinium, and afterwards changed to Augusta in honour of the Roman Emperor. The Roman Cohorts garrisoned the citadel; but even the prestige of Rome did not serve to keep back the incursions of the wild and warlike tribes that occupied the hinterland. Time after time did they break in, only to be thrown back with much slaughter on both sides, until in 61 A.D. Boadicea and her British hosts compelled the Roman general Suetonius to vacate the town, and all the inhabitants, who were unable to escape, were put to the sword.

A WALLED CITY.

Finding the safety of the town so endangered by repeated incursions, the Romans were at last compelled to extend the fortifications round the whole town, and about 350 A.D. they built a great wall enclosing some 380 acres of land. The wall was over three miles in length and followed a course which can still be easily traced. Beginning on the east of the Tower, it ran along the river front to the edge of the Fleet Estuary at Blackfriars. Here it turned northwards to Newgate, skirted Christ's Hospital, then eastwards across Aldersgate Street, northwards to Cripplegate, eastwards along the present London Wall to Bishopsgate, then in a south-easterly direction along Houndsditch, which was a wide ditch skirting the wall, and so back to the Tower. Portions of the wall were rebuilt from time to time, but the Saxon wall stood on the same foundations as the Roman wall, and it remained the boundary of the city for close on 1,000 years.

It should be specially observed that, immediately outside the wall, was a second boundary enclosing the Pomoerium, a large belt of land upon which no buildings were allowed. This Pomoerium was a feature in the construction of Roman cities; it was marked off by stone pillars and consecrated with religious ceremonies. The wall was pierced by various openings or gates, two communicating with the river, Billingsgate and Dowgate, and others spanning the great roads which issued from the city—the Watling Street, the Ermyn Street and Vicinal Way. The first-named, the Watling Street, was the great North-western Road, leading to Chester, and was practically coincident with our Edgware Road. From the Marble Arch it originally ran down Park Lane and across to Westminster, where there was a shallow ford over the river. On the other side it met a stone causeway over the marshes, the name of which remains in Stangate or Stonepaved Street, near Westminster Bridge.

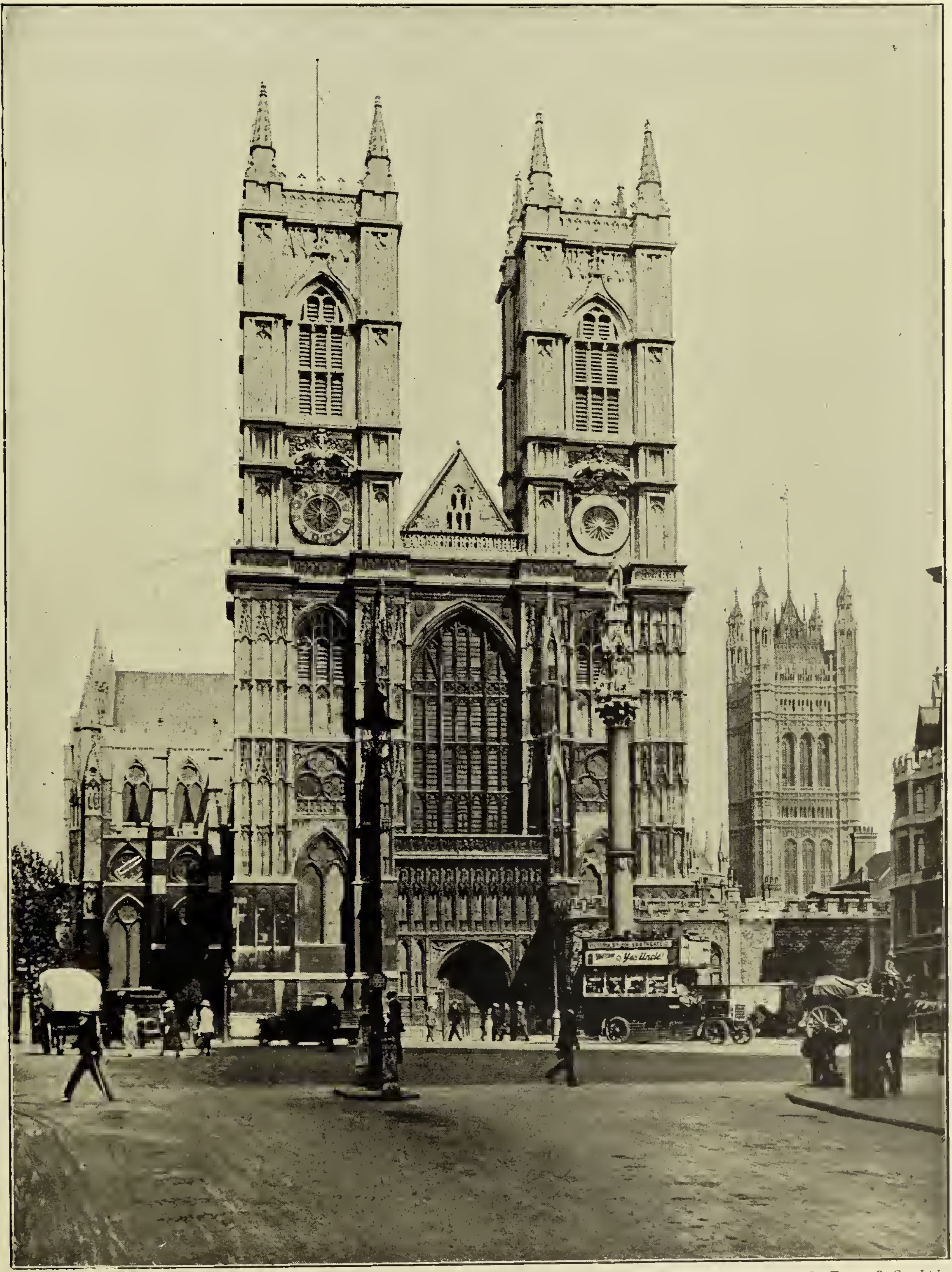
THE FIRST BRIDGE.

When the first London Bridge was built, Watling Street appears to have been diverted and to have passed through the city along the present street of the same name, and on the other side of the Thames the traveller found another paved way, commemorated in the present Stony Street, Borough. No date can be assigned to the building of the bridge, but, judging from the dates on the coins found in the river bed at this spot, it was constructed quite early in the Roman occupation. From the northern end of the bridge started the Ermyn Street (or Poor Men's Street), which led away to York, and at the point where it joined the Watling Street, a " chepe " or market was formed, where now stands Eastcheap. Another road led to the eastern counties, and was called the Vicinal Way, now the Whitechapel Road.

Under the powerful sway of Rome peace reigned, trade flourished, and British exports were carried throughout the Continent of Europe. Wealthy Britons resided in the city; dignified by the citizenship of Rome, they imitated the dress and manners of their conquerors, and buildings of considerable pretensions rendered the city not unworthy of its imperial name of Augusta.

AUGUSTA.

At the end of the Roman occupation, which lasted some 400 years, London consisted of a flourishing town within the wall, built on the Roman plan with straight thoroughfares dividing the area into rectangular blocks or " insulae," a fortified

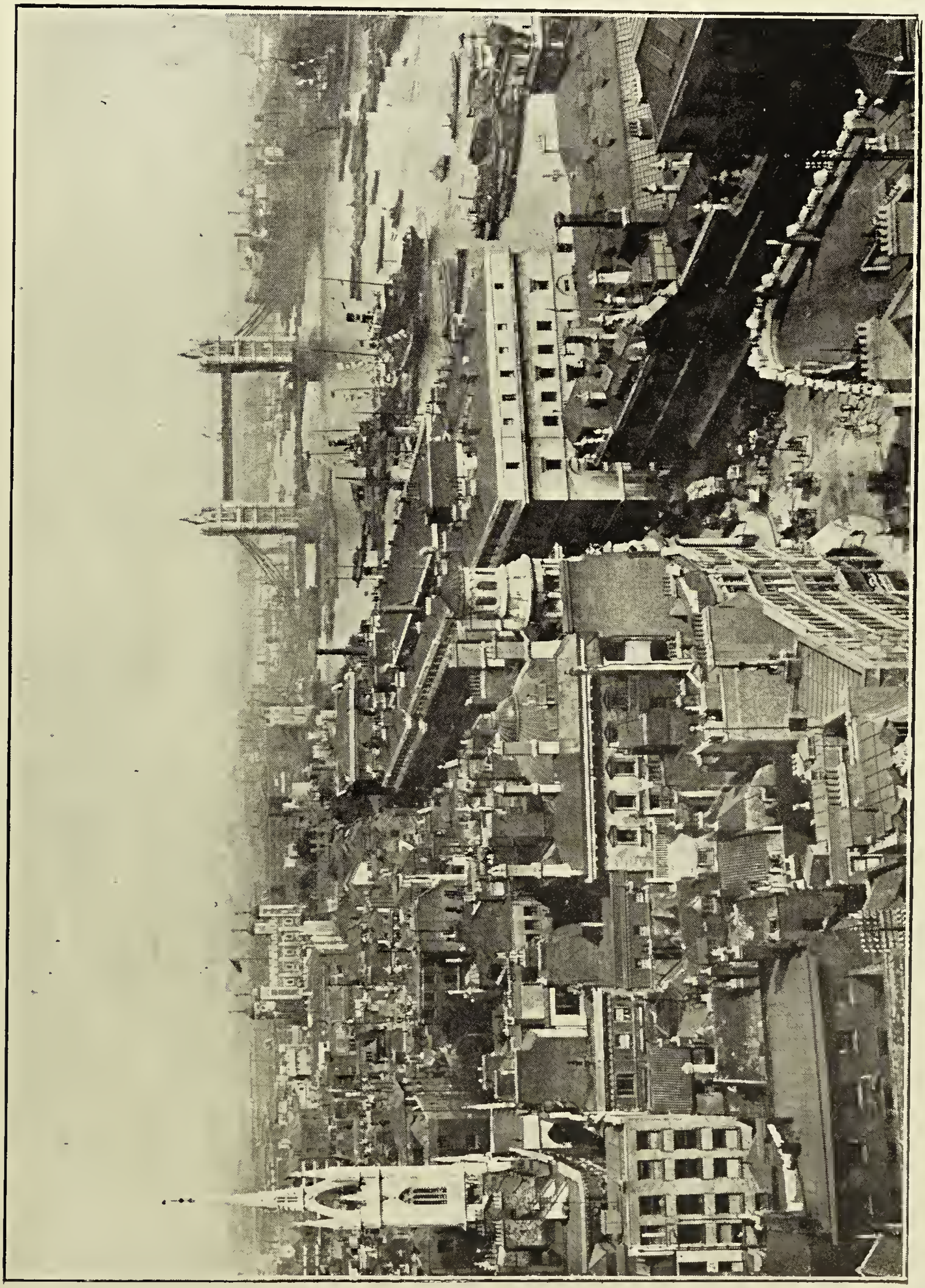


Photo, L. Toms & Co. Ltd.

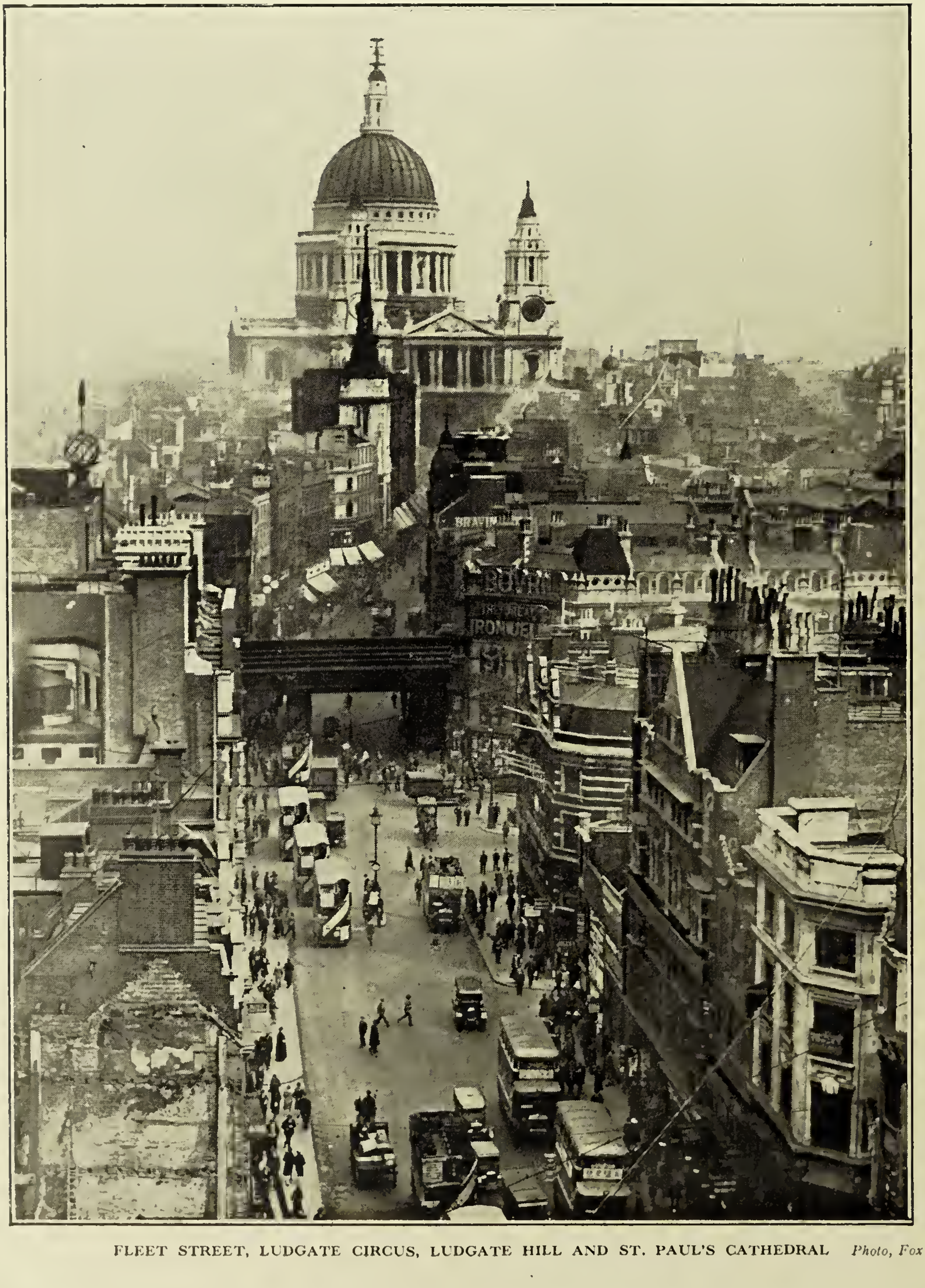
WESTMINSTER ABBEY—THE SHRINE OF THE EMPIRE

Photo, D. McLeish, London

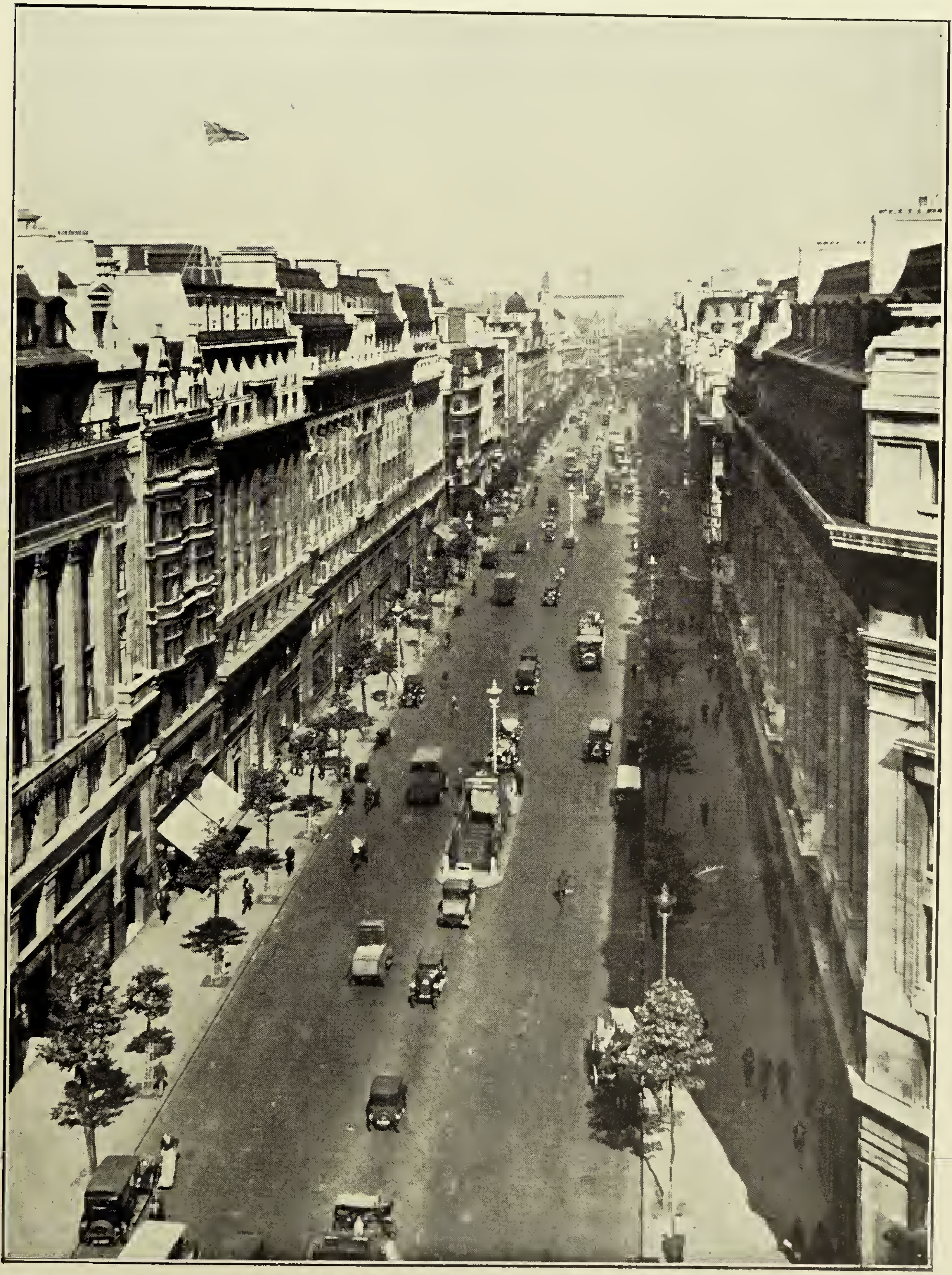
HORSE GUARD, WHITEHALL



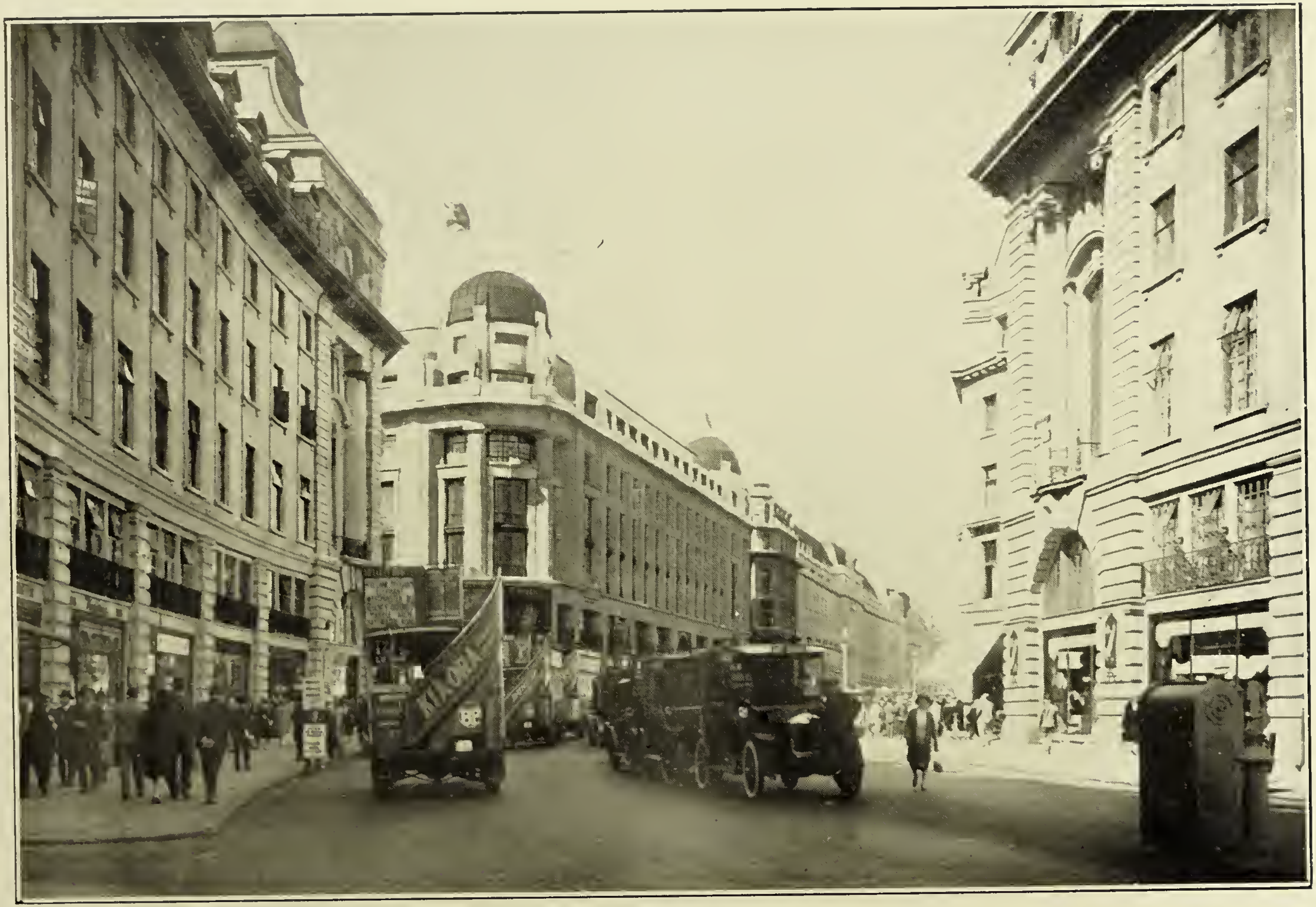
VIEW FROM MONUMENT, LONDON



FLEET STREET, LUDGATE CIRCUS, LUDGATE HILL AND ST. PAUL'S CATHEDRAL *Photo, Fox*

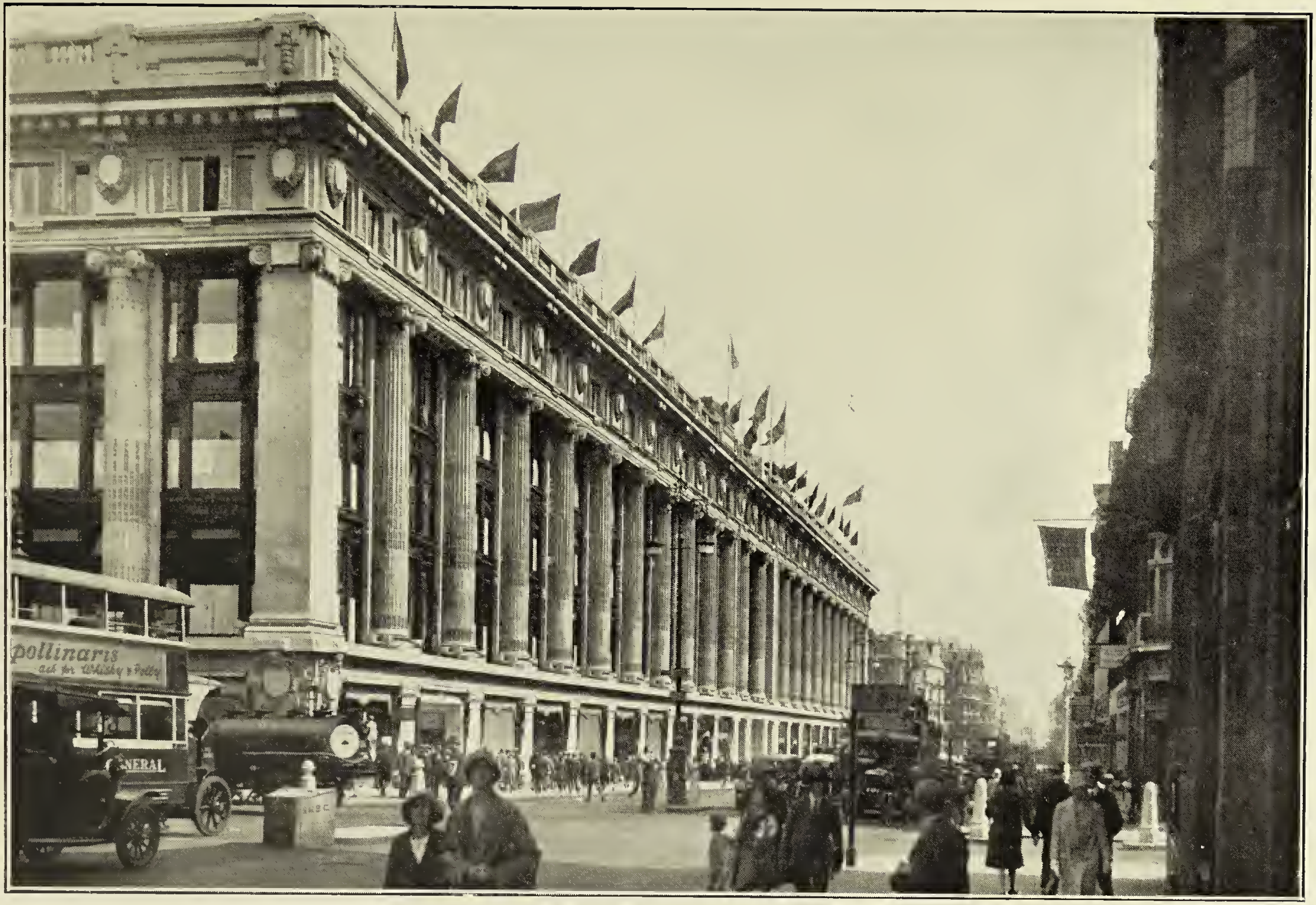


KINGSWAY, FROM THE TOP OF BUSH HOUSE *Photo, Will F. Taylor*



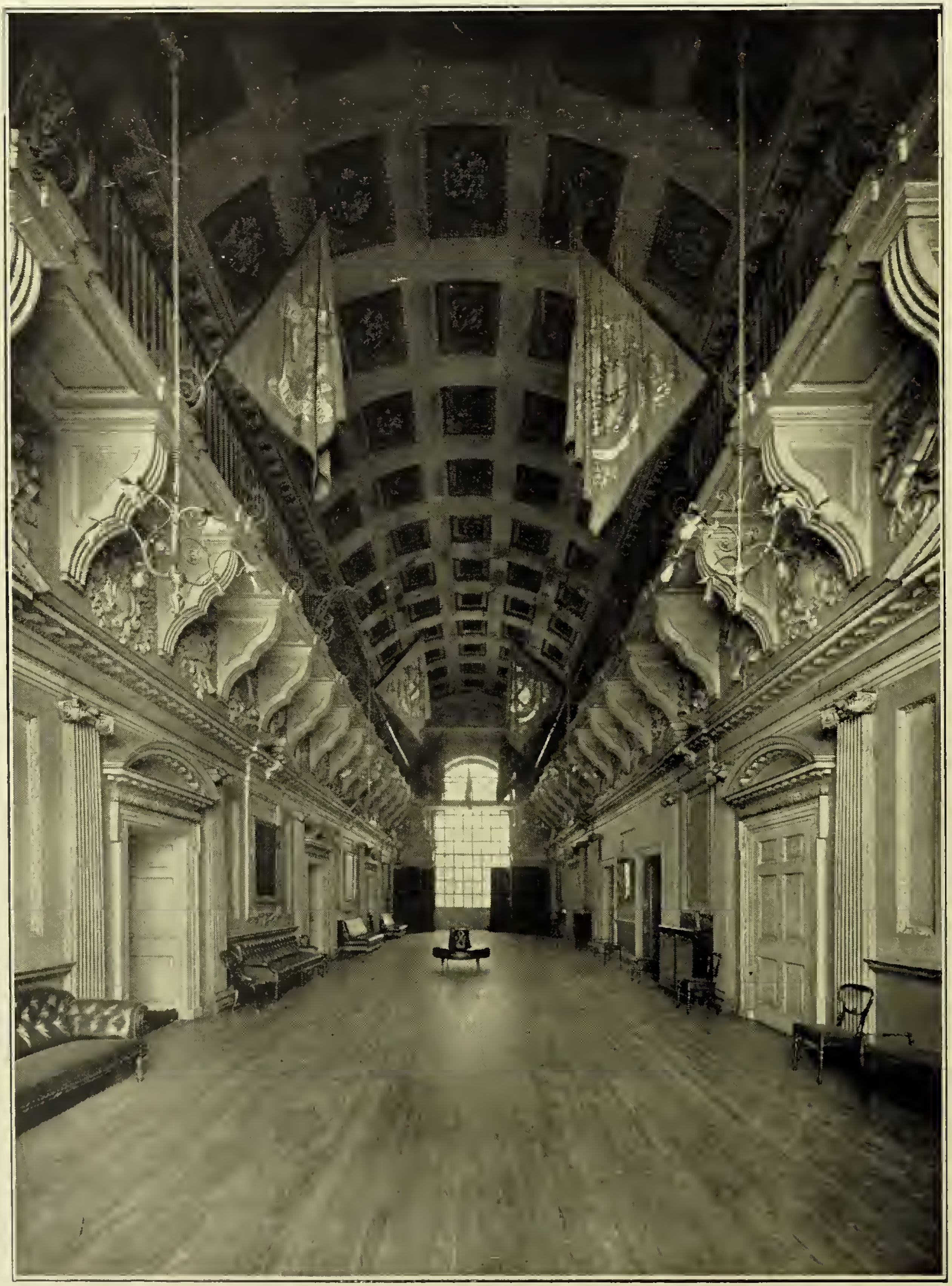
REGENT STREET

Photo, Will F. Taylor


pollinaris
ask for Whisky & Polly
ENERAL

OXFORD STREET SHOWING SELFRIDGE'S STORE

Photo, Will F. Taylor



THE BALLROOM, MANSION HOUSE
The Official Residence of the Lord Mayor of London

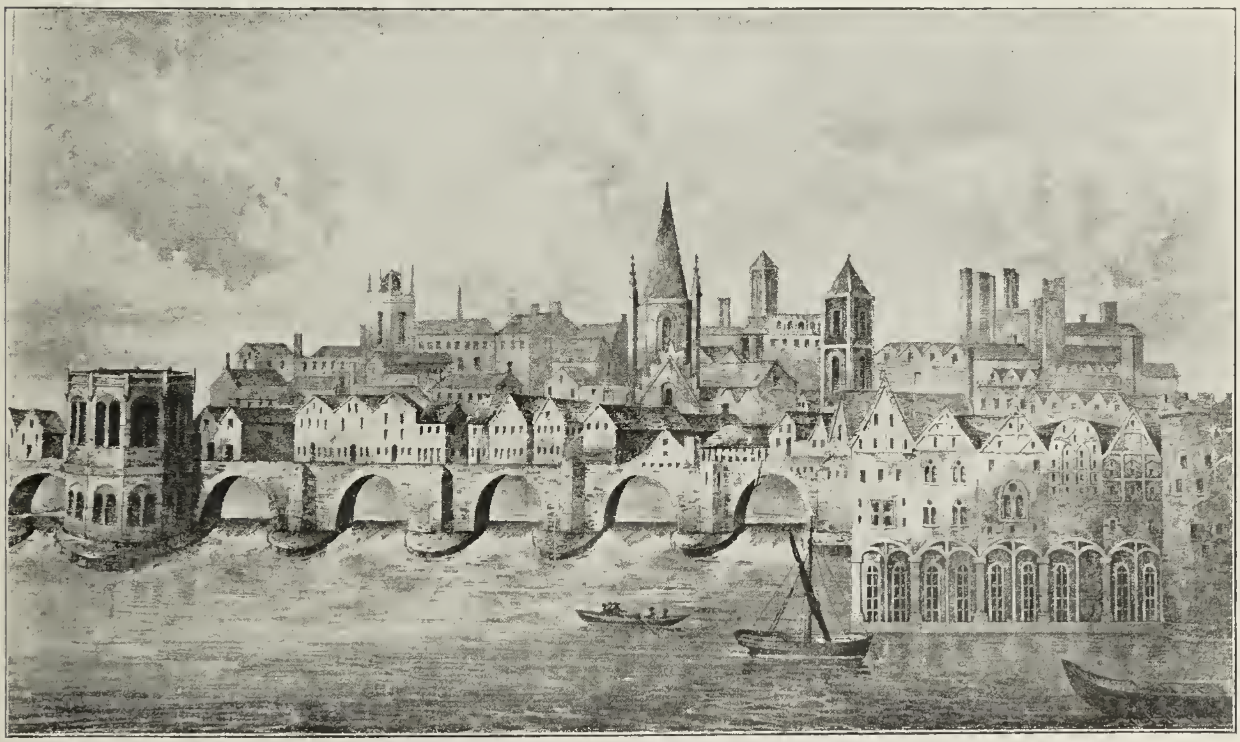
Photo, Miles & Kaye

citadel reaching from Cornhill to Mincing Lane and enclosing the public buildings; and another fort at Southwark and a bridge connecting the two; villas lining the banks of the Walbrook and at other favoured situations, many of them having large gardens and grounds; large numbers of buildings of an inferior class; three harbours at Billingsgate, Dowgate, and at the mouth of the Fleet, with the merchants' houses clustering round; four great roads piercing the walls and leading into the surrounding country; outside the walls the open land or Pomoerium, and the ring of suburbs beyond. The population is variously estimated at from 35,000 to 70,000 persons.

So much we see by the dim light of history, aided by the taper of the antiquary, but even that dim light is shortly to be quenched, and black darkness to reign for 200 years. The last glimpse we obtain of Augusta as the clouds descend upon her is in 410 A.D., when the Roman legions were withdrawn to prop the falling greatness of Rome itself, and the darkness does not lift till 604 A.D., when we find the Saxons in occupation of London. Once only do we get a peep into the obscurity and see the Britons defeated in Crayford in 457 and driven back across London Bridge by the advancing Saxons. All the rest is dark, and the curse of Jerusalem seems to have fallen on the doomed city—"that not one stone shall be left upon another." The desolation was so complete that we have no record of any single Roman building having survived, except the wall, and that was in a ruinous condition.

TWO HUNDRED YEARS OF DARKNESS.

The Roman buildings were noted for their substantial construction, and it might at least have been expected that some arch, such as that which remains at Lincoln, or the ruin of some large building, would have remained and been mentioned in contemporary history, but no such reference is made, and the Anglo-Saxon chronicle which records the conquest of Bath, Gloucester, Chester, and many other places, does not even notice the occupation of London. It is significant that the very lines of the Roman streets seem to have been effaced. Thoroughfares now exist which, except for the rebuilding of the houses, are the same as the Saxon and



A View of the East Side of London Bridge, with the Chapel of St. Thomas, in the Reign of King Henry VII circa 1500, from an illumination in a Manuscript in the British Museum, Royal MSS. 16 Eli. XV

Norman thoroughfares, and even retain their old names, and this in spite of repeated alterations and frequent fires ; but the streets of Saxon London were entirely different from the plan upon which Roman cities were built. The pavements of such villas as have been discovered appear to have faced different streets from those which now exist, and we have not even a name left of Roman or British origin, with the doubtful exceptions of Billingsgate, Ludgate and Dowgate, and even in these cases the termination " gate " is Saxon. It seems as if nothing short of demolition and rebuilding could explain so complete an effacement of ancient streets and thoroughfares.

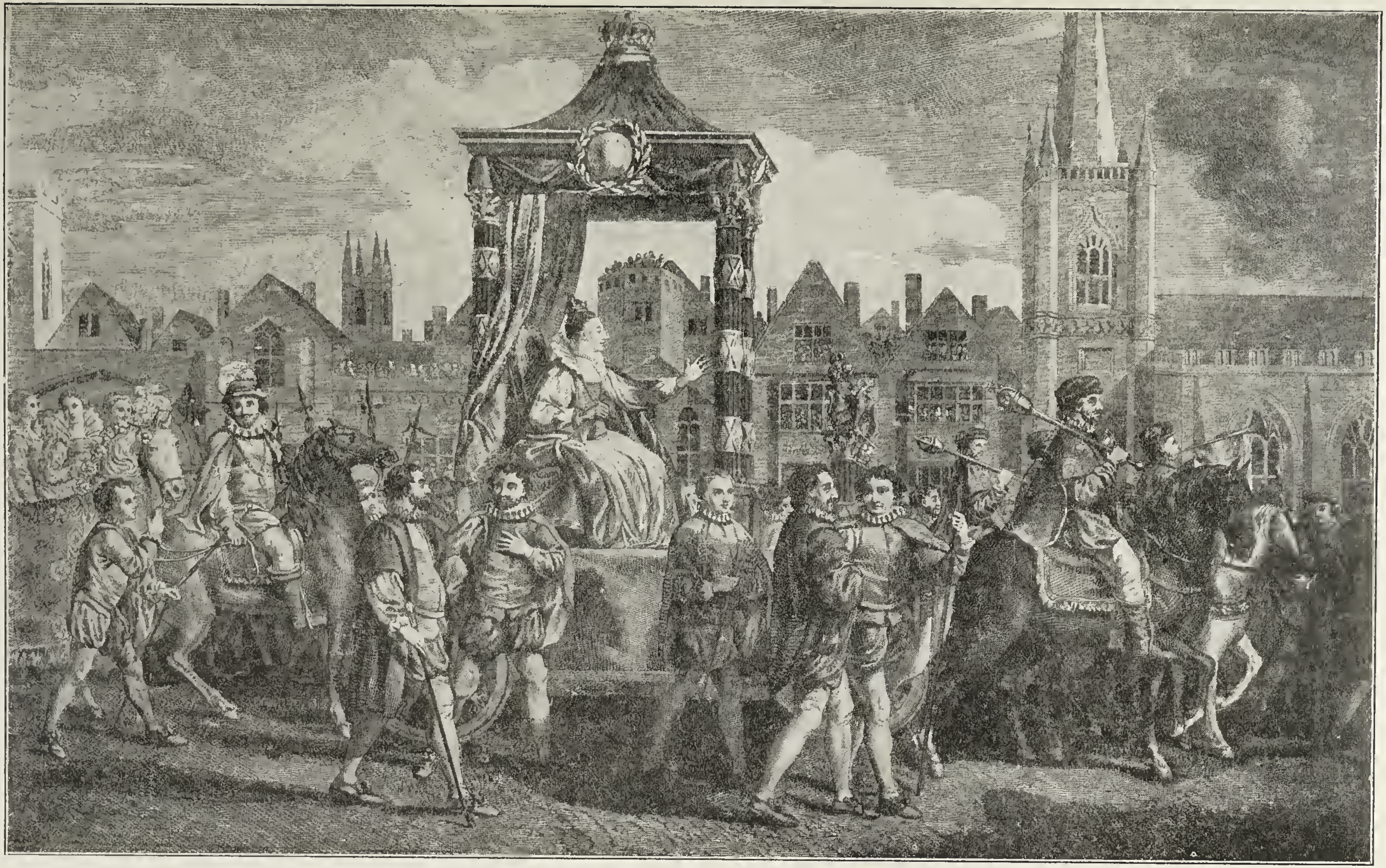
These considerations, taken in conjunction with the utter absence of historical reference, have led Loftie, Besant, and other historians of London to the conclusion that on the arrival of the Saxons at Augusta, they found it waste and desolate, and that they entered the city with none to oppose. It remains to explain, if possible, the means by which the city could have reached so forlorn a condition, and the explanation seems to lie in the physical surroundings of the city. With the river in front, with marshes on three sides, and with forests beyond on the north, London had no adjacent farmland from which to draw her supplies ; all had to be brought in day by day from the outlying districts. If the approaches were closed, the food supplies would cease at once. When, therefore, the Roman troops withdrew, it was incumbent upon the Britons to raise a native force sufficient to keep open the highways and to protect the adjacent lands. Without doubt they did their utmost to maintain their position. The bravery and tenacity of the Britons is shown in the exceeding slowness of the Saxon conquest. The historian Green tells how throughout the land " every inch of ground seems to have been fought for. Field by field, town by town, forest by forest, the land was won, and as each bit of ground was torn away from its defenders the beaten men drew back from it to fight stubbornly for the next." But the end came at last. We hear of the Thames being controlled by the Jutes in Thanet ; the Vicinal Way was closed by the East Saxons and Angles who had overrun the eastern counties. On the north the Picts pressed the city in ever-increasing numbers, and the Saxons on the west prevented the approach of supplies down the Thames, so the place was gradually isolated ; trade declined and food was scarce, foes harried the failing city, and after many a stubborn resistance, the hapless Britons made their way along the Watling Street—their only remaining outlet—and found a refuge in the hills of Wales. The few remaining inhabitants, bereft of government, protection and means of wealth, reverted to barbarism, and in the long lapse of years cottage and temple alike rotted to shapeless ruin.

On the other hand, a modern historian of London, Sir G. Laurence Gomme, does not agree with this view. From the persistence until later years of certain political and municipal conditions and customs which he identifies as Roman in origin, he argues that after the Roman retirement the city was at no time abandoned, but that the British occupation was continuous under native rule, reinforced at times by an ecclesiastical government. The lack of reference in contemporary history he explains by the suggestion that London was never conquered by the Saxons, but that their occupation of it was brought about by gradual settlement, resulting in the Saxon element at length being so strong in numbers as to become predominant.

SAXON LONDON.

However this may be, in 604 we find the Saxons in possession ; they had rebuilt the city, but if the Britons had forgotten how to defend the walls, the Saxons had not learnt their use, and centuries elapsed before the wall was restored by Alfred in 886. The city was held by the Essex Kings under the overlordship of Kent, till in Alfred's time it became the capital of England. Later it was held by the Danes under Canute, and after their expulsion, again by the Saxons until the Norman Conquest.

With the advent of the Saxon occurred a significant change in the environment of London. The Roman was a man of the town, the Saxon a man of the fields. The Romans concentrated within and around the walls of the city, keeping a large surrounding area free from anything in the shape



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LONDON IN THE DAYS OF QUEEN ELIZABETH

From an old print

This print represents Queen Elizabeth going in solemn procession on Sunday, Nov. 24, 1588, on a chariot throne, decorated as above, from Somerset House to St. Paul's Church, to return thanks to God for the defeat of the Spanish Armada. The Earl of Essex, her Master of the Horse, follows the chariot, leading her horse of state; after whom proceed Ladies of Honour and high rank. The Queen, delighted with the joyful acclamations of her people, extends her hand, and blesses them. She was attended by her Privy Council and Prime Nobility, Judges, etc., all on horseback; her Guards and domestic servants marching on foot of a town. The Saxons settled in village communities within easy reach of each other. The Romans dwelt within the walls, and left the cultivation of the soil, which supplied their needs, to their slaves and inferiors. The Saxon family settled down on the plot of land or manor assigned to them and tilled the ground for their sustenance. Hence arose the villages dotted over the area of the present London County, the " tons," the " hams," the " ings," which survive in such familiar names as Islington, Paddington, Clapham, Fulham, Charing and Wapping. Every village became in itself a nucleus and centre of population, in later years swelling out to join hands with the metropolis as it advanced towards them.

ORIGIN OF NAMES.

And now within the city the familiar nomenclature of the streets emerges, and we have Eastcheap and Cheapside ; Poultry, Fish Street, Bread Street, Milk Street, Wood Street, Ironmonger Lane, Honey Lane and Cornhill, Guildhall and Basinghall ; and the Danes gave us St. Botolph, St. Olaves, and Tooley Street corrupted from St. Olaf's Street.

All the gates, except Moorgate, were built, and the names remain to this day. Wherever we find the termination " ea " or " ey," we know that an island existed in the shallows of the river—Battersea, Peter's Island ; Chelsea, Chesil, or Shingle Island ; Thorney or Thorn Island. The landing places for the boats were called hythes—Rotherhithe, or the rower's hythe or landing place—Lambeth or Loamhithe, the muddy landing place.

The topography of London itself under the Saxons was roughly the same as that of Roman London, *i.e.*, it was restricted mainly to the enclosure of the wall ; but the life of the city was pulsating strongly, and from its heart, the " Folk Moot " outside St. Martin's-le-Grand, it made itself felt throughout the land. Churches were dotted over the whole area, and London was the religious as well as the political centre of the country. Commerce poured into her markets from all directions, and her population began to overflow her borders.

In the later years of the Saxon Kingdom, Westminster Church arose on Thorney Isle, under Edward the Confessor, and round it grew the city which still has its own corporate existence.

A settlement of the Danes remained on the site of the present Aldwych, which was named in memory of their occupation. Southward, the city gradually advanced from a small fort at the Bridge Gate to a flourishing settlement, and then began that expansion which has gone on almost without cessation until the present day.

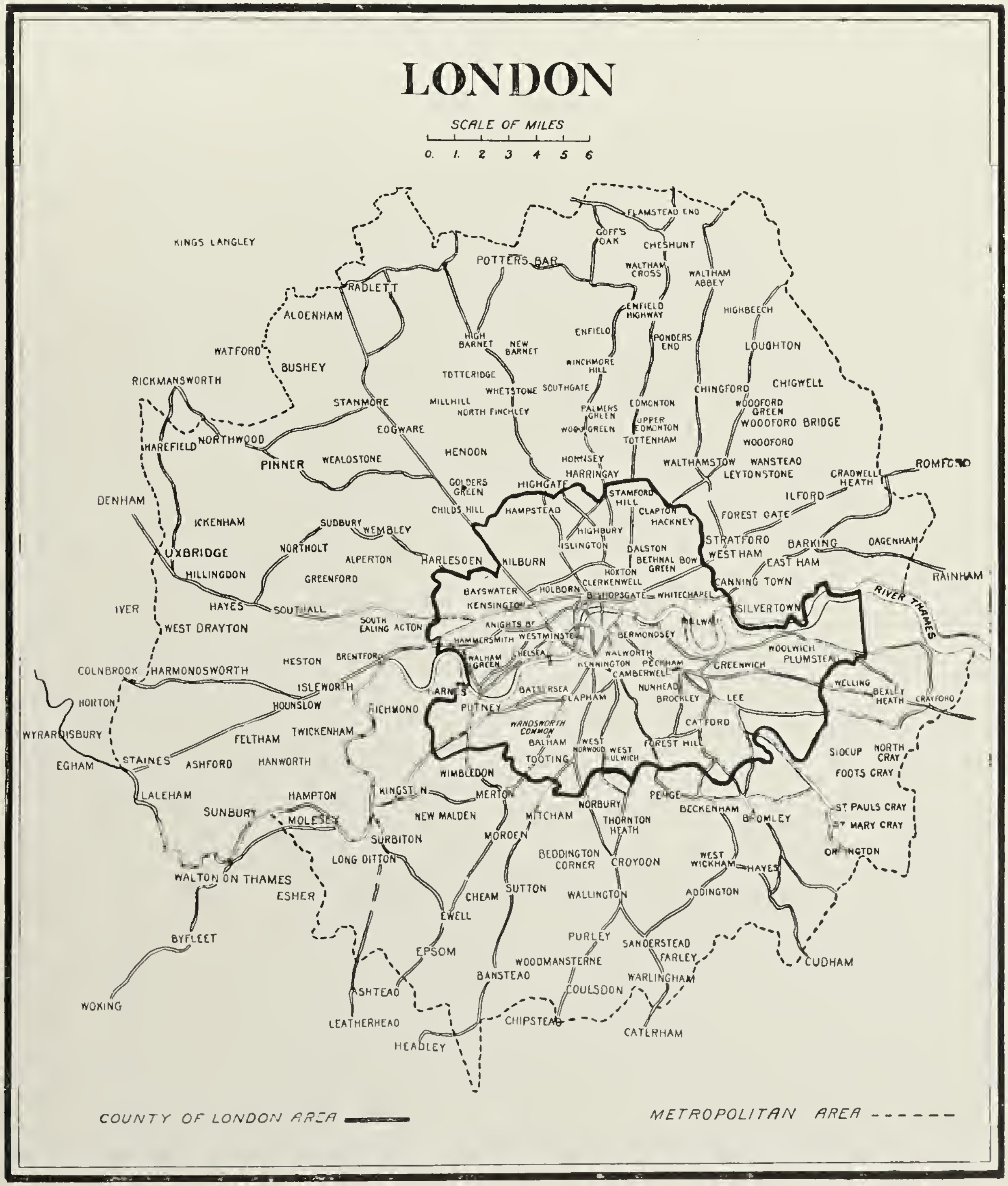
NORMAN LONDON.

Under the Normans and Plantagenets the extension of London was considerable. William the Conqueror entered the city in 1066 ; he found it wealthy and powerful, and throughout the whole period it was frequently strong enough to turn the scale between rival candidates for the throne. The Conqueror was glad enough to obtain possession without a siege, and with the double object of strengthening its defences against foes without, and of dominating his subjects within, he pulled down the south-east corner of the wall and built the Tower fortress. The work was completed by William Rufus, under whom the adjacent city of Westminster was fast rising into importance. In 1011, 1077, and again in 1136, disastrous fires occurred which destroyed large numbers of buildings, and the town had to be practically rebuilt ; and in the place of the comparatively poor buildings of the Saxons rose the majestic and stately structures of the Normans.

PLANTAGENET LONDON.

Up to 1174 the materials from which we have to construct the topography of London are meagre, but in that year we have an account of *Plantagenet London* by William FitzStephen, friend of Thomas à Becket. He tells us of the Tower, of Montfitchett's Tower, at Blackfriars, and of Baynard's Castle ; he speaks of the walls with their seven gates, through one of which, Aldgate, led the way to the eastern counties. The wall had been removed on the river side, and populous suburbs reached as far as Westminster, with " citizens' " gardens and orchards intersected by numerous brooks, springs, and watercourses, turning water-mills with " pleasant noise." He puts the population at 63,000, and he draws a bright picture of their life of prosperity and

LONDON IN THE TWENTIETH CENTURY


LONDON
SCALE OF MILES
0. 1. 2 3 4 5 6
FLAMSTEAD END
GOFF'S OAK
CHESHUNT
KINGS LANGLEY
POTTERS BAR
WALTHAM CROSS
WALTHAM ABBEY
RADLETT
ALDENHAM
ENFIELD HIGHWAY
HIGHBEECH
ENFIELD
PONDERS END
HIGH BARNET
NEW BARNET
LOUGHTON
WATFORD
BUSHEY
WINCHMORE HILL
TOTTERIDGE
RICKMANSWORTH
WHETSTONE
SOUTHGATE
CHINGFORD
CHIGWELL
STANMORE
MILLHILL
NORTH FINCHLEY
PALMERS GREEN
EDMONTON
WOODFORD GREEN
WOODFORD BRIDGE
WOOD GREEN
UPPER EDMONTON
EDGWARE
TOTTENHAM
WOODFORD
HAREFIELD
NORTHWOOD
HENDON
PINNER
WEALDSTONE
HORNSEY
HARRINGAY
WALTHAMSTOW
WANSTEAD
LEYTONSTONE
ROMFORD
CRADWELL HEATH
GOLDERS GREEN
HIGHGATE
STAMFORD HILL
ILFORD
DENHAM
CHILDS HILL
HAMPSTEAD
CLAPTON
HACKNEY
FOREST GATE
ICKENHAM
SUDBURY
WEMBLEY
HIGHBURY
STRATFORD
BARKING
DAGENHAM
UXBRIDGE
NORTHOLT
ISLINGTON
DALSTON
WEST HAM
ALPERTON
HARLESDEN
KILBURN
BETHNAL GREEN
BOW
EAST HAM
RAINHAM
HILLINGDON
GREENFORD
HOXTON
CLERKENWELL
CANNING TOWN
BAYSWATER
HOLBORN
BISHOPSGATE
WHITECHAPEL
RIVER THAMES
IVER
HAYES
SOUTHALL
KENSINGTON
SILVERTOWN
WEST DRAYTON
SOUTH EALING
ACTON
KNIGHTS BR
HAMMERSMITH
WESTMINSTER
MILLWALL
BERMONDSEY
BRENTFORD
CHELSEA
WALWORTH
WOOLWICH
PLUMSTEAD
COLNBROOK
HARMONDSWORTH
HESTON
WALHAM GREEN
KENNINGTON
PECKHAM
CAMBERWELL
GREENWICH
ISLEWORTH
BARNES
BATTERSEA
NUNHEAD
WELLING
HORTON
HOUNSLOW
RICHMOND
PUTNEY
CLAPHAM
BROCKLEY
LEE
BEXLEY HEATH
CRAYFORD
WYRARDISBURY
TWICKENHAM
FELTHAM
WANDSWORTH COMMON
CATFORD
BALHAM
WEST NORWOOD
WEST DULWICH
FOREST HILL
SIDCUP
NORTH CRAY
EGHAM
STAINES
ASHFORD
HANWORTH
TOOTING
FOOTS CRAY
WIMBLEDON
LALEHAM
HAMPTON
KINGSTON
MERTON
NORBURY
PENGE
SUNBURY
MOLESEY
NEW MALDEN
MITCHAM
BECKENHAM
ST PAULS CRAY
THORNTON HEATH
BROMLEY
ST MARY CRAY
SURBITON
MORDEN
ORPINGTON
LONG DITTON
BEDDINGTON CORNER
CROYDON
WEST WICKHAM
HAYES
WALTON ON THAMES
ESHER
CHEAM
SUTTON
WALLINGTON
ADDINGTON
EWELL
BYFLEET
PURLEY
SANDERSTEAD
EPSOM
FARLEY
CUDHAM
WOODMANSTERNE
BANSTEAD
WARLINGHAM
ASHTEAD
COULSDON
WOKING
LEATHERHEAD
CHIPSTEAD
CATERHAM
HEADLEY
COUNTY OF LONDON AREA
METROPOLITAN AREA

SPECIALLY DRAWN FOR THE ENCYCLOPEDIA OF THE BRITISH EMPIRE BY A. H. LEE.

happiness. He quaintly says it is a "good city indeed when it has a good master, and the only pests are the immoderate drinking of fools and the frequency of fires."

One outstanding feature of Plantagenet London was the large number and extent of the ecclesiastical buildings ; these, with their grounds, covered nearly one-fourth of the entire area of the city. There were, according to FitzStephen, 126 churches and thirteen conventual establishments. The latter were chiefly outside the walls, and embraced considerable areas of land. There were the Carthusians, whose name Chartreuse was corrupted into Charterhouse ; the Augustine or Austin Friars, Black Friars, White Friars, Grey Friars, Crutched Friars, the Minoresses, or Nuns of the Minories, and the Knights Templars, whose purlieus in the Temple have been adopted by the legal profession. The original poverty and asceticism of these religious houses contrasted strangely with their luxury and extraordinary wealth in later days, and the corruption, in which they were sunk, furnished Tudor Harry with an excuse for destroying these institutions and appropriating their revenues. The first Tudor found London a city of beauty, thick with the spires and towers of the noble Gothic churches and priories ; the second Tudor reduced it to ruins. He allowed the beautiful buildings to be needlessly destroyed in order to rid himself of the dominion of the Pope.

TUDOR LONDON.

But the nation was now entering upon a new epoch ; the new learning had freed the minds of the people from the old shackles. The discovery of lands beyond the sea, of fabulous wealth and unlimited opportunity, fired the imagination and stimulated enterprise ; new ideas filled their minds, commerce poured into their ports, and the standard of living was everywhere raised. The wealthy built themselves stately dwellings, and Tudor London expanded its limits in all directions. We have now for the first time reliable maps, and from the views of London by Van de Wyngärde, Visscher and Hollar, and the plan of London by Ralph Agas, we may see exactly what London was like under Elizabeth and her successors. Wyngärde's Panorama, produced about 1545, is a sketch taken from some lofty perch on the southern side. It gives us a wonderfully living presentment of London under Good Queen Bess.

IN THE DAYS OF ELIZABETH.

We see first the splendid Gothic building of Old St. Paul's, with its graceful spire, so soon, alas ! to fall ; and the picturesque London Bridge with its fantastic piles of buildings. We see the city clustering densely along the north bank of the Thames, thickly sown with the spires and towers of its hundred churches, and the broad river, with its "Thousand masts of Thames," has its argosies, whose decks are trod by fearless explorers, and whose holds are laden with costly merchandise. The Queen's swans breast the stream at Westminster—the Queen's barge plies to and from Whitehall. To monarch and courtier, rich and poor alike, the Thames is the principal avenue of traffic to and from their daily avocations, while from Westminster to Stangate Stairs runs the Horseferry, upon the site of the old Roman ford.

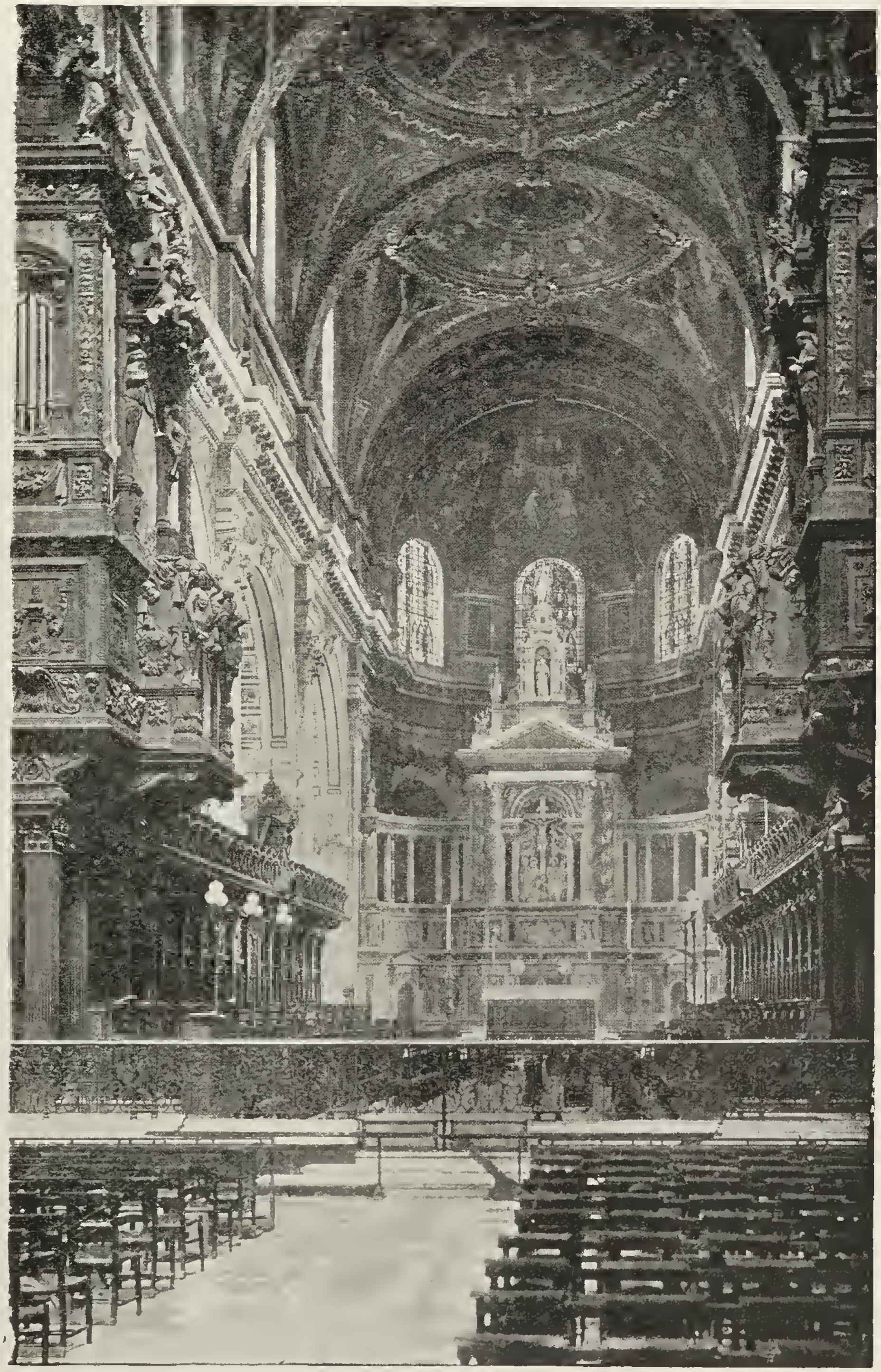
From the Temple to Westminster there stretches an unbroken line of noblemen's palaces, surrounded by spacious gardens, and flanked by the river. Going westward, we begin with Dorset House, then Sussex House, Arundel House, Somerset House, the Savoy, Worcester House, Salisbury House, Durham House, Suffolk House—afterwards Northumberland House—and then Whitehall. The present Somerset House marks the site of the ducal palace of the same name, and until the construction of Victoria Embankment it preserved its steps leading down to the river.

SHAKESPEARE'S LONDON.

Ralph Agas, land surveyor and engraver, gave us his plan about twenty years later, and we at once notice that St. Paul's spire is down, having been struck by lightning in 1561. Within the walls many of the houses have spacious gardens, where now the buildings cluster. We see the suburbs gathering under the walls or stretching out along the roads and by the silent highway of the Thames. We also see the familiar names of Bunhill Fields, Smoothfield or Smithfield, St. Giles' Fields, St. George's Fields, and the Haymarket, and we learn that within a few hundred yards of the walls were green fields and country lanes, where now nothing but the name reminds us that the land ever produced any other crops than bricks and mortar and throngs of people. It is amusing to note how Agas quaintly emphasises the rural character of the lands immediately adjoining the confines of the city by depicting cattle in the fields, and the good wife bleaching her washing within a few yards of Moorgate. North of the Strand there was a road running up to the pleasant suburbs of Holborn and Bloomsbury, surely a dim prophecy of the present Aldwych and Kingsway.

There was a continuous line of buildings from Westminster to Poplar, and the northern and eastern roads leading from Bishopsgate were lined both sides with houses as far as Shoreditch and Mile End. South of the Thames, Southwark had spread a long way along the river bank in both directions, and in the map are conspicuous the enclosures for bear and bull-baiting, the former of which is now believed to have been the site of the Roman Amphitheatre. In Bankside, Southwark, we see the two theatres, "The Rose" and "The Globe." which remind us that we are looking at Shakespeare's London.

There are Cheapside, Wood Street, Milk Street, Lothbury, and all the rest of the Saxon streets; there are the main roads running north, east, south and west. In "The way to Reading" we recognise Piccadilly; Oxford Street in "The way to Uxbridge";



ST. PAUL'S CATHEDRAL, THE CHOIR *Photo, G.W. Rly.*

the Tower and Westminster Abbey are there, standing like sentinels at either end of the city. The principal shopping street was Cheapside with its Goldsmith's Row, the fashionable promenade was Paul's Walk, which passed through the nave of St. Paul's Cathedral, to the detriment of the sanctity of that edifice, and the slums just outside the walls were crowded with tenement dwellings of the poorest class. The population was 125,000.

THE GREAT FIRE.

Such was the London of the Tudors ; and from this picture we pass to London under the Stuarts, as shown us in the views and plan of Morden and Lea, 1682. Between the time of these two pictures, London has passed through the deep waters—she has been torn by civil wars, has witnessed the execution of her King, been desolated by the plague, and finally overwhelmed by the great fire of 1666. There had been fires before, but nothing which could be compared with this terrible calamity, the tale of which, as told by Pepys, is heartrending. London was destroyed ; 396 acres, or about five-sixths of its entire area were laid waste, and 13,000 houses were consumed. The population had by this time reached nearly 500,000, and of these people 200,000 were rendered homeless. The only part of the city proper which was not consumed was between the Tower and Coleman Street. From this point to the Temple the whole was burnt to the ground. All the buildings were down, St. Paul's, the Guildhall, the Royal Exchange, eighty-nine churches, and nearly all the halls of the companies. So complete was the clearance that it was regarded as an opportunity of remodelling the city and replacing the narrow and tortuous streets by others broader and more handsome.

The two principal architects of the times, Wren and Evelyn, were desired to prepare plans for this purpose, but the difficulties

THE LAW COURTS AND FLEET STREET
The centres of Law and Journalism

Photo, L. Toms & Co. Ltd.

Photo, L. Toms & Co. Ltd.

TRAFALGAR SQUARE AND NELSON COLUMN

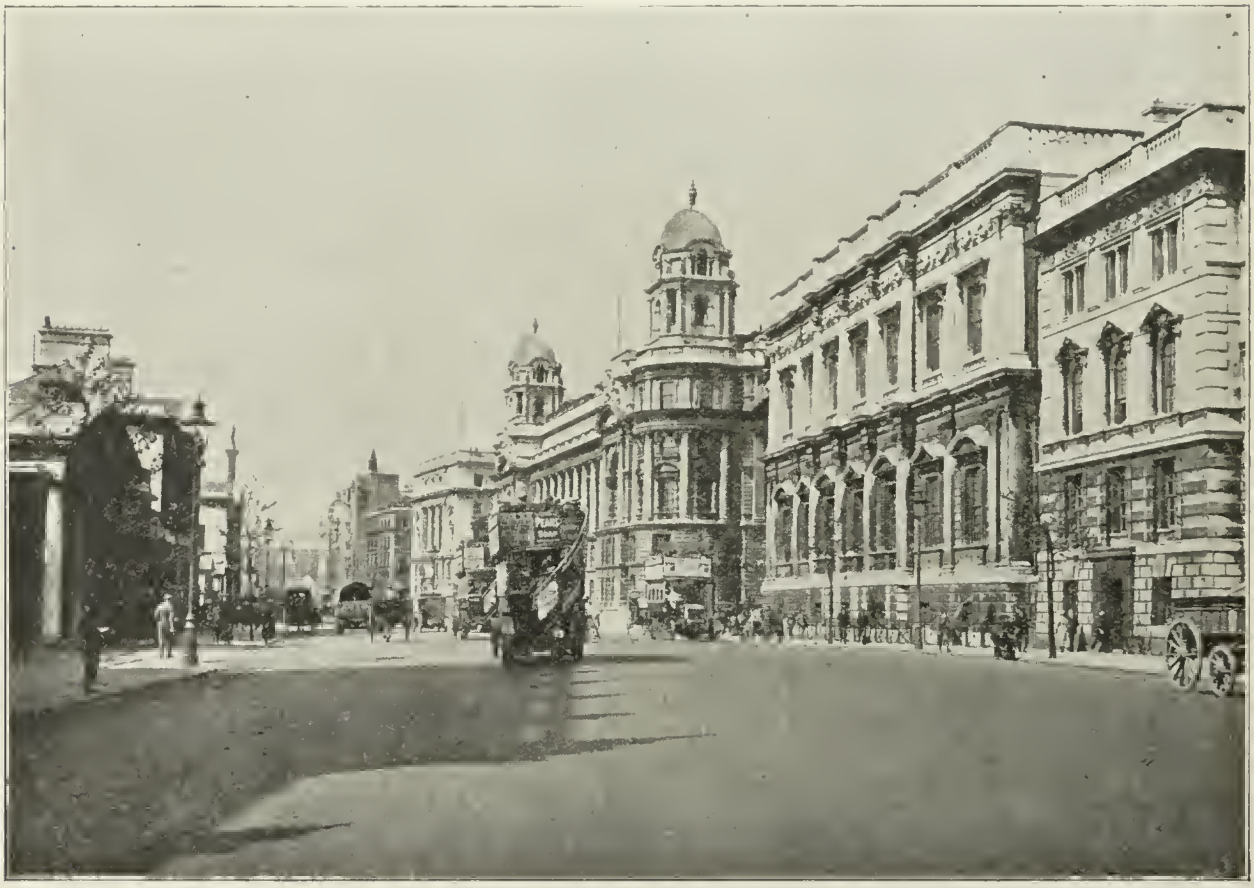
Looking towards the West End

This square, surrounded by fine buildings, including the National Gallery, is generally considered as the centre of the great city, although topographically it is far from being the central point

were too great to allow of the project being carried out. These plans are extant, laying out the city on rectangular lines ; and it is considered by many that the failure of their scheme was by no means a matter for regret. As it is, a new London rapidly arose upon its former ruins, but the streets were widened and the old wooden and thatched houses were replaced by brick buildings with tiled roofs, which were at once more cleanly and less exposed to risk from fire.

WHEN CHARLES WAS KING.

The tide of fashion was flowing westwards—already had appeared the stately houses of Lincoln's Inn Fields, and in the new impetus of the re-creation of London there arose the still more imposing mansions of Pall Mall and Piccadilly. In Morden's plan (which marks the close of the Jacobean period) we observe a great change without the walls, as we might expect from the fact that the population had quadrupled since our last review. The fields are closely built over westwards as far as St. James's Street. In Piccadilly appears Burlington House, erected by its owner so far west that "he felt sure no one would ever build beyond it." St. Giles's has been engulfed, the buildings reach Soho Square and Great Russell Street. Clerkenwell, St. Luke's, and Spitalfields are solid masses. Westminster has spread down to Lambeth Bridge. On the south side of the river, private houses with gardens line the river bank from Lambeth House to a point opposite Somerset House ; Southwark is greatly enlarged and the marshes are being slowly reclaimed. Fashion has now long left the city, and has taken up its abode in Piccadilly and in Kensington, which developed rapidly under William III.



WHITEHALL AND PARLIAMENT STREET, WESTMINSTER *Photo, L. Toms & Co. Ltd.*
The Administrative Centre
The building on the right of the picture (with towers) is the War Office, and in front of it on the same side is the old Westminster Hall, in front of which King Charles I was executed

GEORGIAN LONDON.

Georgian London still finds the tide of buildings flowing westwards apace ; the land south of Tyburn Road, which was called Oxford Street in 1729, became rapidly covered with houses which are said to have been sold before they could be finished, and by the year 1770 the Portman Square district was covered. Eastwards the town was growing, and in narrow strips the houses had crept along the river bank as far as Limehouse ; but northwards the extension was slow, and as late as 1756 the land adjoining the British Museum was still farm land. South Lambeth was a health resort recommended for its situation, and Chelsea was a country village.

Georgian London was not distinguished for the beauty of its architecture. Most of the old gabled houses which had survived the fire were pulled down and their places were filled by buildings of what Ruskin describes as the Gower Street order of architecture—row upon row, and street upon street, of dull brick buildings with flat fronts and sash windows. But if the building was ugly in style, it was prolific in quantity ; the old boundaries were too restricted and the outlets too narrow to accommodate the flowing tide of traffic. In 1760 the remnants of the old walls were demolished and the gates were all removed ; the picturesque but inconvenient London Bridge, with its piles of buildings and narrow ways, was stripped and widened, but the bridge itself stood until 1831, when it was replaced. Three new bridges were provided, Westminster, Blackfriars and Southwark, and the Fleet River was covered over as far down as Holborn Bridge. The picture of life in London under the Georges presents a vivid contrast to FitzStephen's description of Plantagenet London, and its depravity and vices were typified by the licence of its pleasure grounds of Vauxhall, Ranelagh, and Bagnigge Wells ; and by the horror of its debtors' prisons, the Fleet, the King's Bench, and the Marshalsea.

The maps of the closing years of the Georgian period show us St. Marylebone built on as far north as Regent's Park, and a solid mass of houses reaching from Hyde Park to Stepney, bounded on the south by the river, and on the north by Regent's Park, Somers Town, Pentonville, and Shoreditch, with lines of houses creeping out in every direction. South of the river, Southwark is now a town in itself, but the development of the southern suburbs is as yet hardly began. In this huge town of Georgian London there reside over 1,000,000 souls.

VICTORIAN LONDON.

Building, which had received a check in consequence of the expense of the Napoleonic Wars, found fresh stimulus on their conclusion. Within the next few years Victorian London witnessed the covering of the whole of the northern portions of Marylebone, St. John's Wood, Camden and Kentish Towns, Clerkenwell, Hackney, and the northern suburbs. To the west, Paddington, Bayswater, Notting Hill, Pimlico, and Chelsea ; to the east, Stepney, Limehouse and Poplar ; and to the south, Greenwich, Lambeth, Peckham, Camberwell, Brixton, Stockwell, and Clapham. During the latter half of the century the great increase in railway and other means of traffic stimulated development to such an extent that not only were the areas mentioned more thickly and completely covered, but other large districts sprang into being ; and still others, which until then were small hamlets, grew out of all recognition, and became merged in the topography of the vast metropolis.

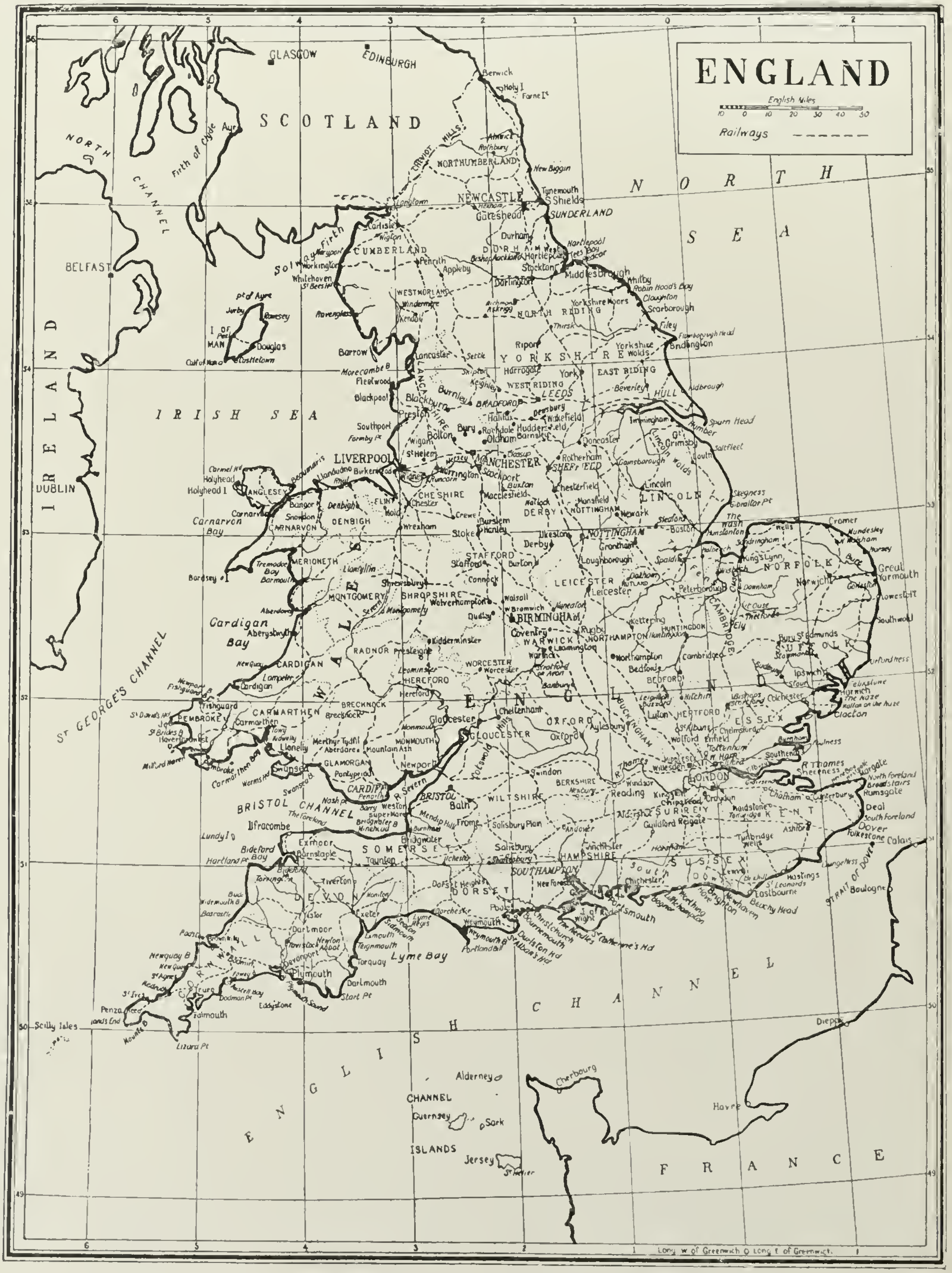
EDWARDIAN LONDON.

The district known as the Administrative County of London includes an area of 117 square miles, and the whole of it is covered with buildings, no open spaces being left except the parks. The population increased from 2,800,000 in 1861 to 4,483,249 in 1921.

Not only so, but London has passed the ample boundaries of the Administrative

BUCKINGHAM PALACE *Photo, L. Toms & Co. Ltd.*

The residence of their Majesties, the King and Queen


ENGLAND
English Miles
10 0 10 20 30 40 50
Railways
SCOTLAND
GLASGOW
EDINBURGH
NORTH CHANNEL
Firth of Clyde
IRELAND
BELFAST
DUBLIN
I. OF MAN
IRISH SEA
ST GEORGE'S CHANNEL
Cardigan Bay
Carnarvon Bay
BRISTOL CHANNEL
WALES
NORTH SEA
ENGLISH CHANNEL
CHANNEL ISLANDS
Alderney
Guernsey
Sark
Jersey
FRANCE
Cherbourg
Havre
Dieppe
Boulogne
Calais
STRAIT OF DOVER
NORTHUMBERLAND
CUMBERLAND
WESTMORLAND
DURHAM
YORKSHIRE
LANCASHIRE
CHESHIRE
DERBY
NOTTINGHAM
LINCOLN
STAFFORD
SHROPSHIRE
LEICESTER
NORFOLK
SUFFOLK
WARWICK
NORTHAMPTON
WORCESTER
HEREFORD
GLOUCESTER
OXFORD
BEDFORD
HERTFORD
ESSEX
BERKSHIRE
WILTSHIRE
SOMERSET
DORSET
DEVON
CORNWALL
HAMPSHIRE
SURREY
KENT
SUSSEX
NEWCASTLE
SUNDERLAND
Carlisle
LIVERPOOL
MANCHESTER
LEEDS
BRADFORD
SHEFFIELD
HULL
BIRMINGHAM
BRISTOL
CARDIFF
LONDON
SOUTHAMPTON
Plymouth
Lyme Bay
Scilly Isles
Lands End
Lizard Pt
Long. W. of Greenwich 0 Long. E. of Greenwich

SPECIALLY DRAWN FOR THE ENCYCLOPEDIA OF THE BRITISH EMPIRE BY A.H. LEE.

County and overflowed the Urban Districts of Brentford, Acton, Ealing and Chiswick; Willesden and Finchley; Hornsey and Wood Green; Tottenham and Ilford; Walthamstow, Leyton, East and West Ham, and Barking; Beckenham and Penge; Kingston, Richmond and Wimbledon — these alone having a population of 1½ millions and an area of 100 square miles. Yet even this wide range does not put a period to the growth of the metropolis—along every main road it pushes its feelers, and far beyond the boundaries of the urban districts the houses stretch almost without a break to Southall, Edgware, Barnet, Enfield, Woodford, Romford, and even Croydon and Surbiton. We watch it growing—ever growing,—and we know that it must still sweep onwards and outwards, in ring beyond ring, adding suburb to suburb, and town to town, until——. Who among us will dare to complete that prophecy?

MODERN LONDON.

After having reviewed the Imperial Metropolis statistically and historically, there remains only to enumerate some of the chief thoroughfares, public buildings and places of amusement. In a city of considerably over 2,400 miles of streets, it will be readily understood that a guide book of very considerable size would be necessary to describe it, even in the most brief manner. Greater London, on June 19th, 1921, was discovered, by a census, to contain no less than 7,476,168 people. It was estimated, in 1930, that this figure had increased to considerably over 8,000,000. The assessable value of the London Cities and Boroughs, which is only a small part of the total populated area, is approximately £111 millions. Within the proposed "London Health Area" there will be over 10,000,000 people.

In this huge metropolis the transport systems, although wonderfully organised, cannot keep pace with the demand, and form an ever-present problem. There are about 6,000 motor omnibuses, 7,000 taxi-cabs, 2,700 tramcars, and the underground railways carry 600,000,000 passengers a year. The tramways are used by 1,000,000,000 people, and the suburban lines by 400,000,000 passengers a year. The movement of this enormous volume of traffic, combined as it is with millions of motor cars, cycles, carts, vans, and other wheeled vehicles, is mainly responsible for 47,000 street casualties a year, of which 1,000 result in death. In view of the efforts made during recent years to prevent the horrors of war, these casualties in one large city, which almost equal the loss of life and limb in a small battle, are worthy of consideration.

Social life is catered for by 4,000 hotels, 186 large clubs, 470 newspaper offices, 3,060 public institutions, 532 cinemas, and 65 theatres. There are 124 hospitals and 25 public dispensaries, with a chain of ambulance stations. The average tonnage of shipping entering and clearing from the London Docks each year amounts to 18,000,000 and 16,000,000 tons, respectively. (See under *Mercantile Marine.*)

The steady growth of this colossus of the Twentieth Century will be better understood when it is stated that an average of 16,000 houses a year have been built for the past 50 years, and it is estimated that in order to make up for the absence of building during the war years, 100,000 per annum will be needed to house the population during the next ten years.*

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* For a description of all the other populous centres of England and Wales, see under the general heading, "*Gazetteer of Cities and Towns of the Empire.*"

SCOTLAND

THE Kingdom of Scotland comprises the northern part of the island of Great Britain, and has an area of 31,510 square miles, that is, over one-fourth of the area of the United Kingdom. The population at the census in 1921 was 4,882,288, and, in 1930, it was estimated that this had increased to just under five millions. The islands of Scotland are very numerous, and are treated separately in this article. Except for fishing and the production of home-spun tweeds, they are not of much commercial importance, and their agricultural possibilities are diminished by the strong winds from the North Atlantic which sweep over them.

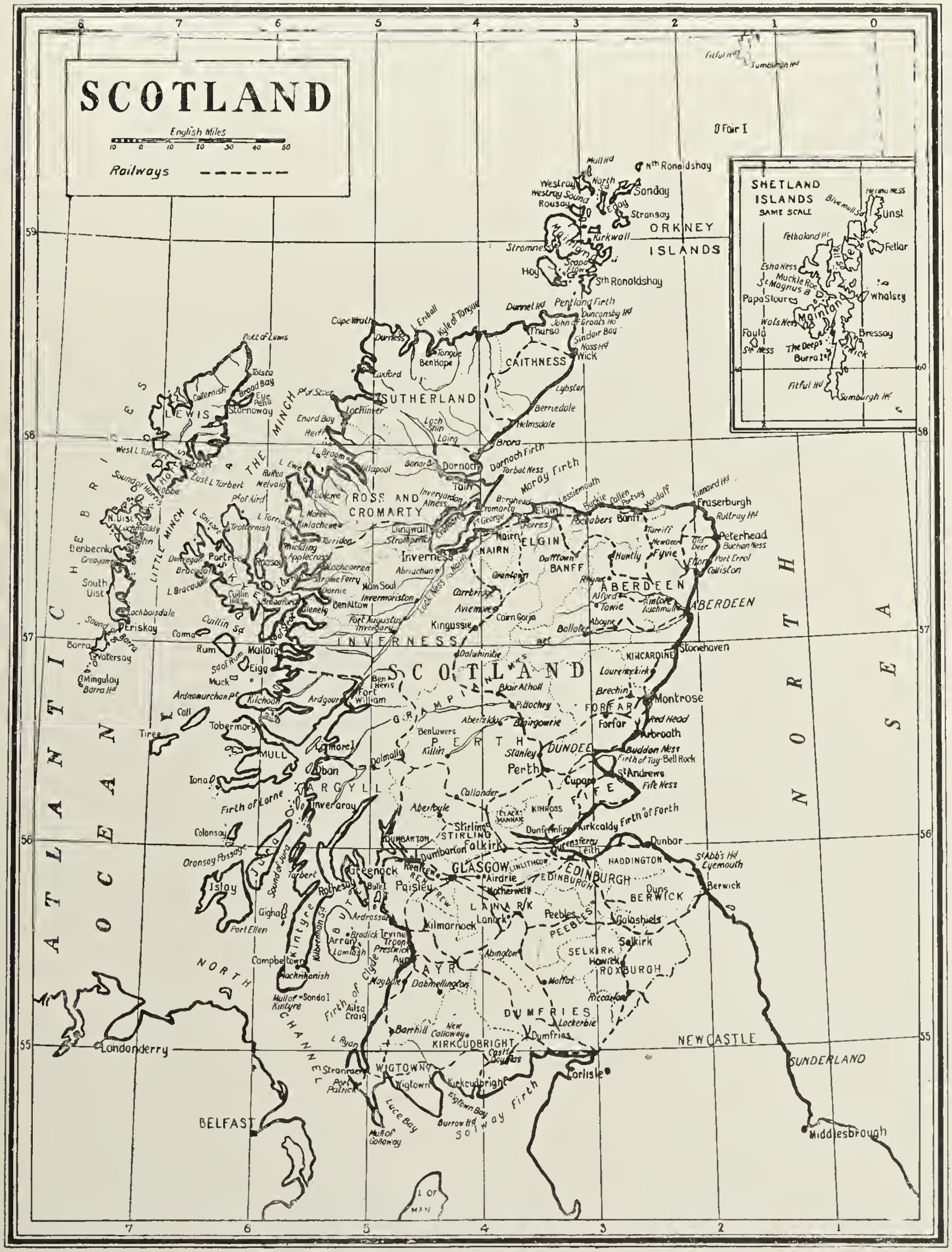
COAST LINE.

The coast line of Scotland is deeply indented in all parts, and there is no place in the whole country which is more than forty miles distant from the sea. Even the boundary line between England and Scotland, from the Solway Firth to the mouth of the Tweed, is only seventy miles across. The proportion of sea coast to area is one mile of coast to 11 square miles of area. This fact would be of enormous advantage to the country if there were manufacturing districts in the north ; but the conditions are such that this seems very unlikely to happen. The result is that harbours are not numerous. On the west the only important one is where the Clyde estuary stretches into the Lowlands. On the east coast the good harbours are only to be found where the Tay and the Forth reach into the heart of the Lowlands, and at the mouth of the Dee in Aberdeenshire.

For the purpose of topographical description Scotland must be divided into three regions—Southern, Central and Northern—which more or less correspond with the popular designation of Borderlands, Lowlands and Highlands.

THE BORDERLANDS.

This includes the country lying along the English border and stretching northwards to the Lammermuir and Pentland Hills. It embraces the counties of Berwick, Roxburgh, Selkirk, Peebles, Dumfries, parts of South Lanarkshire and Ayrshire, and small portions of the East and Mid-Lothians. These borderlands are decidedly mountainous, presenting many ranges and isolated mountains over 2,000 ft. high. In the extreme south-east are the Cheviot Hills, famous in border romance. They consist principally of grassy uplands affording excellent pasture. The principal heights are the Cheviot (2,676 ft.), Carter Bar and Peel Fell (1,975 ft.). When the centre of this region is reached the country assumes a more truly mountainous character, presenting Queensbury Hill, the Lowthers, Cutler's Fell, White Combe, and Dollar Law, which attain the respective heights of 2,285 ft., 2,403 ft., 2,454 ft., 2,695 ft., and 2, 680 ft. Among the curious isolated mountains are Cairnsmuir (2,612 ft.), and Criffel (1,866 ft.), both in Kirkcudbrightshire ; and Tinto Hill in Lanarkshire. Many of these mountains have rounded summits, gentle slopes, and are grass covered, thus being deficient in the grander features of mountain scenery. Between the ridges and isolated groups are broad fertile, undulating and even level plains, also the famous border dales, such as Annandale, Nithdale and Teviotdale, which take their names from the rivers which flow through them. The general aspect of the country is one of undulating


SCOTLAND
English Miles
10 0 10 20 30 40 50
Railways
SHETLAND ISLANDS
SAME SCALE
Unst
Fetlar
Whalsey
Bressay
Papa Stour
Foula
Mainland
Fitful Hd
Sumburgh Hd
Fair I
ORKNEY ISLANDS
Nth Ronaldshay
Sanday
Stronsay
Westray
Rousay
Kirkwall
Stromness
Hoy
Scapa Flow
Sth Ronaldshay
Pentland Firth
Duncansby Hd
John o' Groats Ho
Dunnet Hd
Thurso
Wick
CAITHNESS
Cape Wrath
Durness
Tongue
Ben Hope
SUTHERLAND
Lochinver
Dornoch
Dornoch Firth
Brora
Helmsdale
Berriedale
Lybster
Lairg
Ullapool
ROSS AND CROMARTY
Dingwall
Tain
Invergordon
Cromarty
Moray Firth
Lossiemouth
Elgin
Forres
Nairn
NAIRN
ELGIN
BANFF
Banff
Buckie
Cullen
Portsoy
Macduff
Kinnaird Hd
Fraserburgh
Peterhead
Buchan Ness
Huntly
Fyvie
ABERDEEN
Aberdeen
Ballater
Aboyne
Stonehaven
KINCARDINE
Laurencekirk
Montrose
Brechin
FORFAR
Forfar
Arbroath
Red Head
Buddon Ness
Firth of Tay
Bell Rock
DUNDEE
St Andrews
Fife Ness
FIFE
Cupar
Perth
PERTH
Blair Atholl
Pitlochry
Blairgowrie
Aberfeldy
Killin
Ben Lawers
Callander
Aberfoyle
Stirling
STIRLING
Falkirk
KINROSS
CLACKMANNAN
Dunfermline
Kirkcaldy
Firth of Forth
Queensferry
Leith
EDINBURGH
LINLITHGOW
HADDINGTON
Dunbar
St Abb's Hd
Eyemouth
Berwick
BERWICK
Duns
Galashiels
Selkirk
SELKIRK
Hawick
ROXBURGH
Peebles
PEEBLES
GLASGOW
Airdrie
Motherwell
Paisley
RENFREW
Dumbarton
DUMBARTON
Greenock
Rothesay
Bute
Lanark
LANARK
Kilmarnock
Ardrossan
Irvine
Troon
Prestwick
Ayr
AYR
Maybole
Dalmellington
Abington
Moffat
DUMFRIES
Dumfries
Lockerbie
KIRKCUDBRIGHT
Kirkcudbright
Castle Douglas
New Galloway
WIGTOWN
Wigtown
Stranraer
Port Patrick
Luce Bay
Mull of Galloway
Burrow Hd
Wigtown Bay
Solway Firth
Carlisle
NEWCASTLE
SUNDERLAND
Middlesbrough
Firth of Clyde
Arran
Brodick
Lamlash
Ailsa Craig
Ballantrae
L Ryan
Campbeltown
Machrihanish
Mull of Kintyre
Sanda I
Kintyre
Kilbrennan Sd
Tarbert
Gigha
Islay
Port Ellen
Jura
Sound of Jura
Oronsay
Colonsay
Firth of Lorne
Iona
MULL
Tobermory
Tiree
Coll
Oban
Lismore I
Inveraray
ARGYLL
Dalmally
Ardgour
Fort William
Ben Nevis
GRAMPIAN MTS
SCOTLAND
Kinlochmoidart
Ardnamurchan Pt
Eigg
Muck
Rum
Canna
Mallaig
INVERNESS
Fort Augustus
Invergarry
Kingussie
Dalwhinnie
Aviemore
Carrbridge
Cairn Gorm
Grantown
Inverness
Loch Ness
Glenelg
Kyle of Lochalsh
Strome Ferry
Lochcarron
Applecross
Torridon
Kinlochewe
Portree
SKYE
Dunvegan
Raasay
Cuillin Hills
LEWIS
Stornoway
Butt of Lewis
Harris
Tarbert
N. Uist
Benbecula
South Uist
Lochboisdale
Eriskay
Barra
Vatersay
Mingulay
Barra Hd
THE MINCH
LITTLE MINCH
HEBRIDES
ATLANTIC OCEAN
NORTH SEA
NORTH CHANNEL
Londonderry
BELFAST
I OF MAN
8 7 6 5 4 3 2 1 0
59 58 57 56 55

SPECIALLY DRAWN FOR THE ENCYCLOPEDIA OF THE BRITISH EMPIRE BY A.H. LEE.

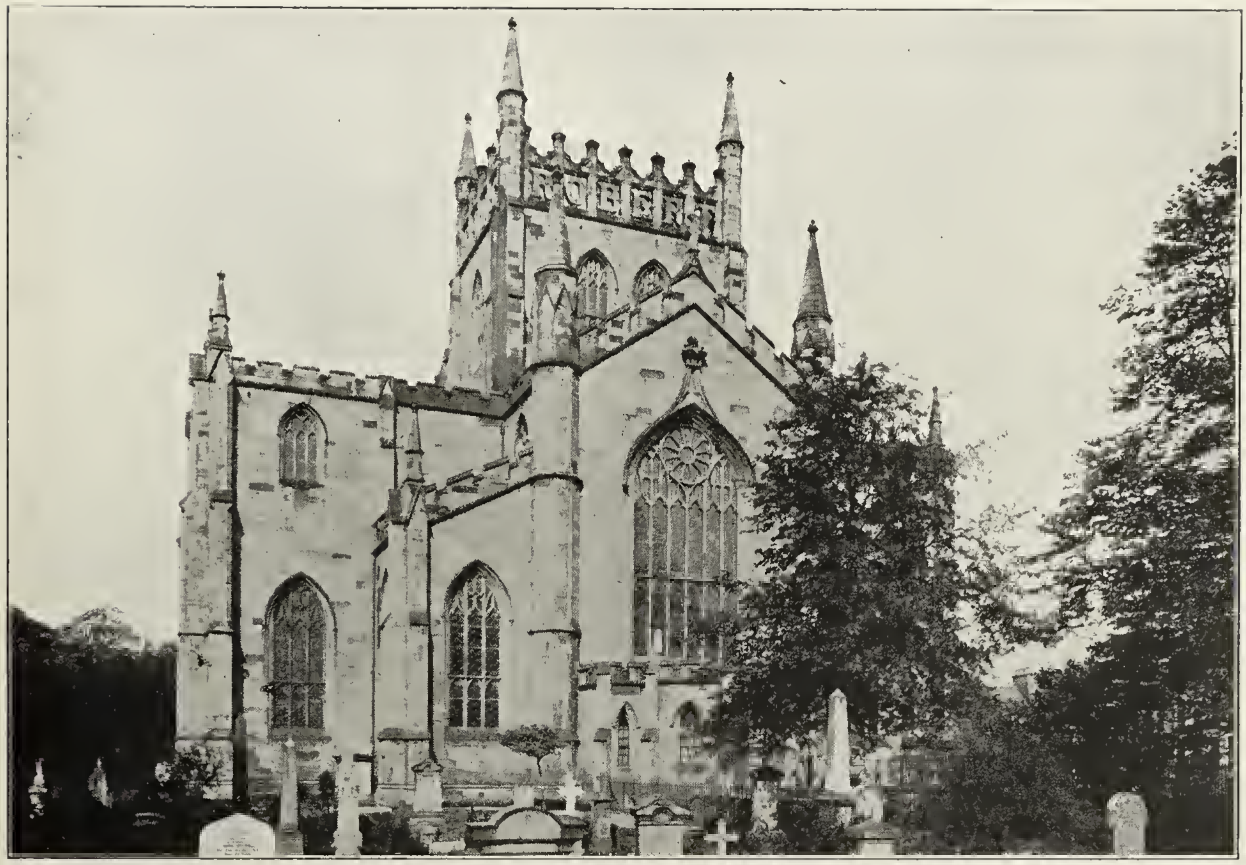
uplands, culminating here and there in lofty round-topped mountains, with rich pasture lands, broad open plains, and well-watered and wooded dales.

Geologically, nearly three-quarters of Scotland's southern region belongs to the Silurian system, and is composed of slate. Valuable lead mines have long been worked at Wanlockhead and Leadhills, on the borders of Lanarkshire and Dumfriesshire. The Cheviots are principally composed of porphyry, and granite is found in Kirkcudbrightshire and Ayrshire. Limestone and coal have been worked in the east of Dumfriesshire.

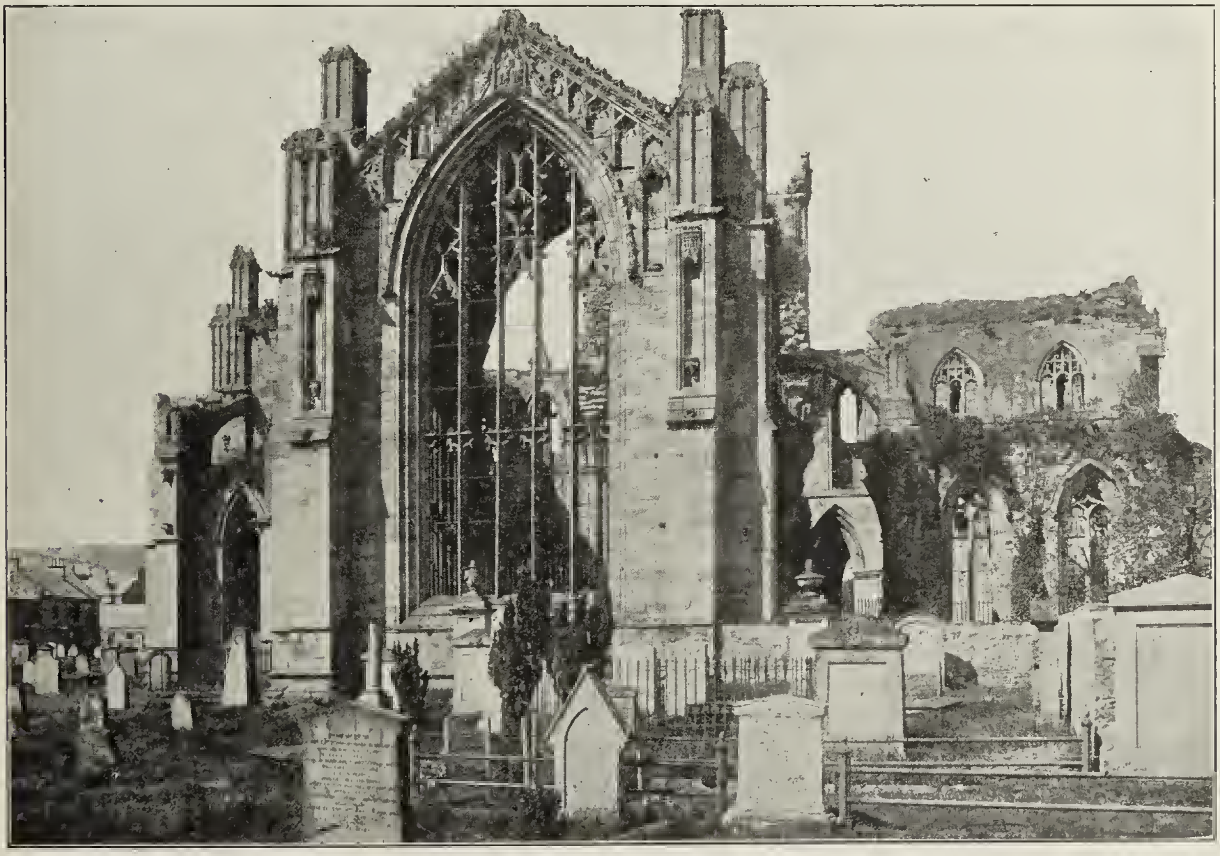
GLASGOW, SAUCHIEHALL STREET (Looking West) *Photochrom Co. Ltd.*

THE LOWLANDS.

This zone begins where its name implies—at the termination of the Southern Region—and extends northwards to the foot of the Grampians. It includes the Lothians, nearly all Lanarkshire and Ayrshire, Renfrewshire, Dumbarton, Stirling, Perth, Fife, Forfar, and the largest part of Kincardine. Although the smallest of the three regions, occupying about one-sixth of the whole of Scotland, it contains nearly three-fifths of the total population, and is by far the richest zone, both in minerals, industry and historical romance. It embraces the valleys of the Clyde, Forth and Tay; and possesses many of the principal cities, towns and harbours of Scotland, including Edinburgh, Glasgow, Perth, Dundee, St. Andrew's, Leith, and Stirling. Although taken generally this central region is less elevated than many other parts of Scotland, it is devoid of monotony, and possesses many beauty spots. The principal hills are the Campsie Fells, the Ochil Hills, and the Sidlaw Hills. Coal and iron are worked over a large area, especially in Fife and Lanark, and exist in a number of separate fields over an area of about 1,000 square miles.



DUNFERMLINE ABBEY



MELROSE, ROXBURGH
The Abbey

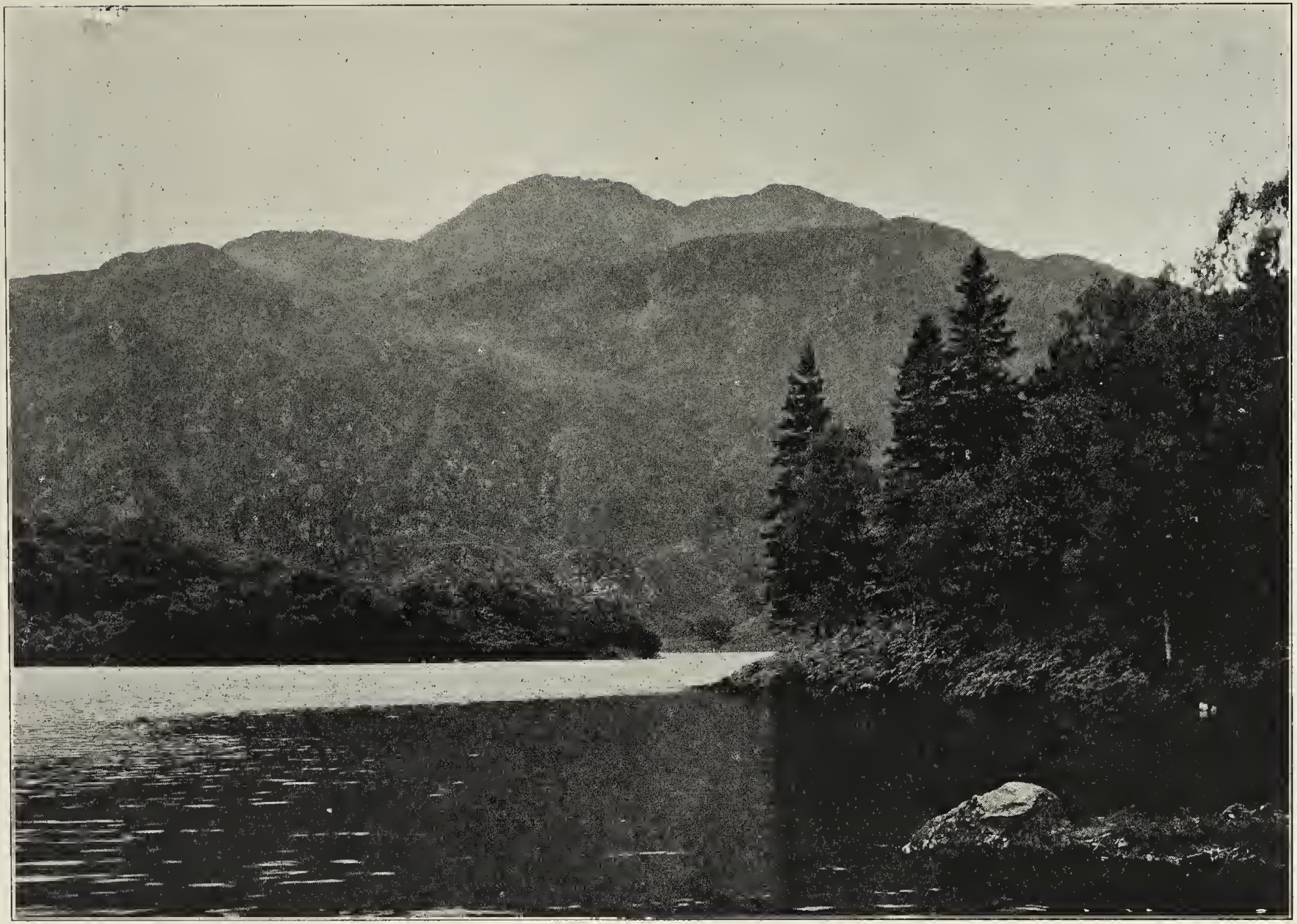
HELENSBURGH, SCOTLAND
Sands and Promenade

THE HIGHLANDS.

This comprises by far the largest portion of Scotland, and includes the whole country north of a line drawn from the Firth of Clyde to a point just south of Aberdeen. It is traversed by many mountain ranges, the principal of which is the Grampians. This area is divided into a northern and a southern region by the Great Glen. So irregularly grouped are the mountains in the Highlands that it would be impossible to point to any particular ridge as the axis of the various systems. The Grampians are, however, the loftiest chain in the British Isles, and have many summits over 4,000 ft. high. The culminating point is Ben Nevis (4,406 ft.); and Ben Macdhui is 4,296 ft. The latter is one of a curious cluster of mountains on the borders of Aberdeen, Banff and Inverness. Among the principal peaks in the Western Highlands are: Ben Arthur (The Cobbler) (2,891 ft.), Ben Lomond (3,192 ft.), Ben Voirlich (3,092 ft.), Ben More (3,843 ft.), Ben Stobinenan (3,827 ft.), Ben Cruachan (3,540 ft.), Ben Achallader (3,400 ft.), Ben Doran (3,523 ft.), Schielhallion (3,547 ft.), Ben Alder (3,757 ft.), Ben Stob Essan (3,658 ft.), and Ben Arnach More (4,060 ft.).

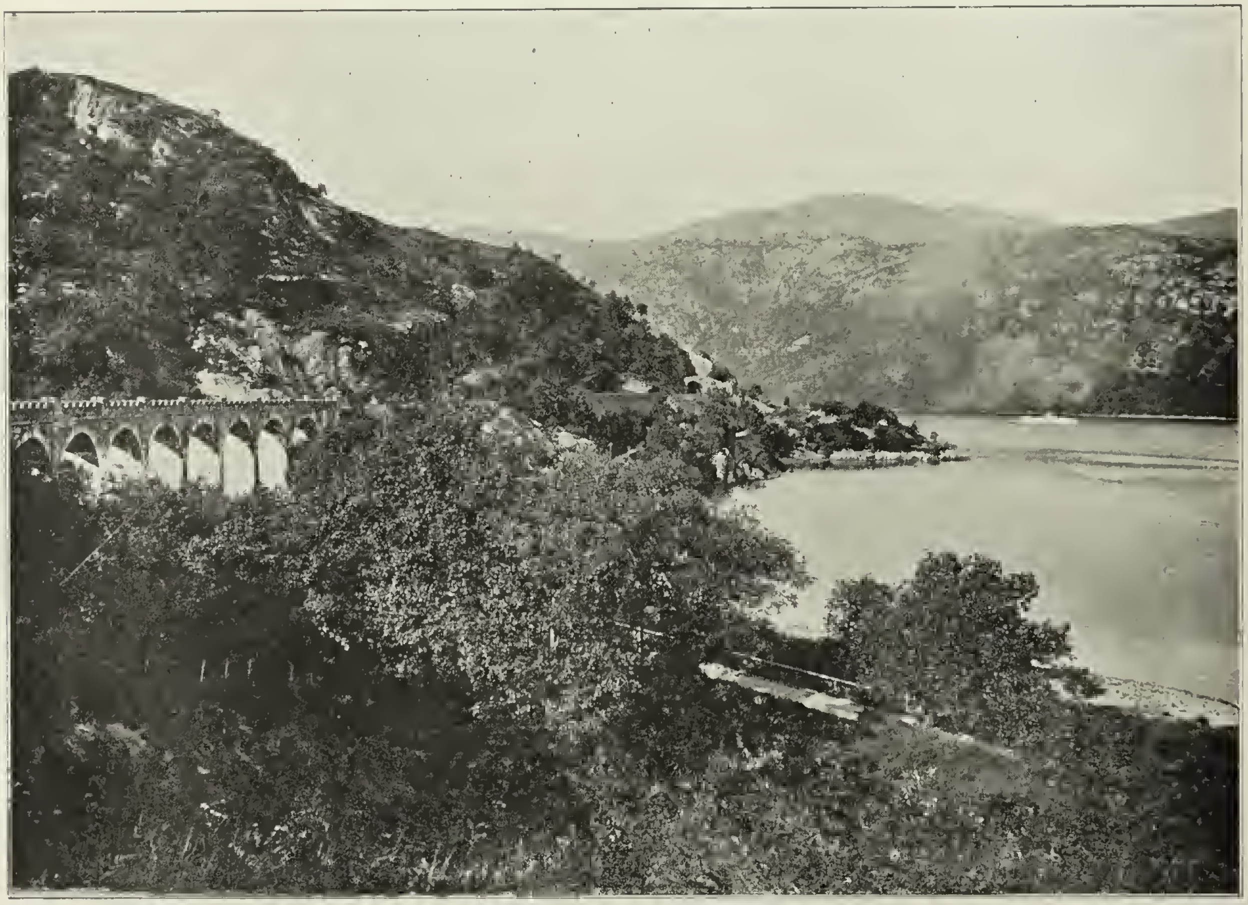
In many parts of the Grampians the scenery is grand but desolate, the lower slopes being covered by a coarse grass or heath which dispappears towards the more lofty summits. Many of the peaks are rounded in form, but others terminate in fantastic pinnacles and have sides formed by almost perpendicular precipices, many hundreds of feet deep. On one side of Ben Nevis is a precipice of 1,500 ft., and on Ben Macdhui another of over 1,000 ft. The scenery among the Grampians—lofty, cloud or snow capped, wild and bare—is grand and often awe-inspiring.

Lying to the north-west of the beautiful valley of Glenmore, with its chain of lakes connected by the Caledonian Canal (*q.v.*), is another series of lofty mountain ridges, which, however, rise from lofty tablelands destroying the appearance of great height. The principal peak in this system is Ben Wyvis, Ross-shire, which is 3,429 ft. high. Much of the extreme north of Scotland is formed by lofty tablelands and barren



LOCH KATRINE AND THE TROSSACHS

Photo, L.M.S. Rly.



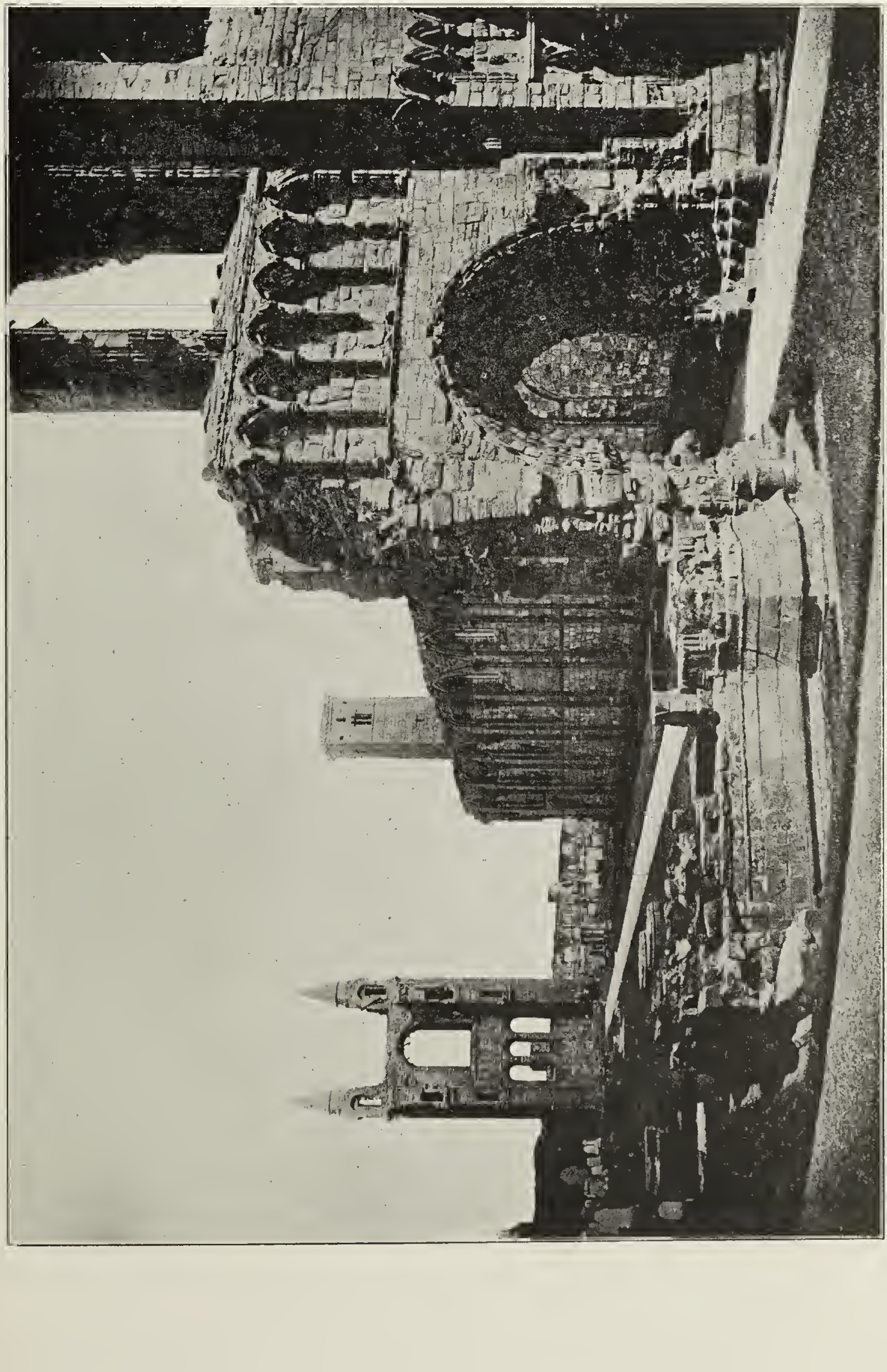
ARDLUI, LOCH LOMOND

valleys, covered with stunted heath, which from the distance appears fertile and undulating.

Geologically, the northern region is formed by chlorite and mica-schists on its southern border. Gneiss is developed in the centre, and granite in Aberdeen. In the islands of Skye and Mull, trap is the principal formation; while the Orkneys are composed principally of old red sandstone. There is an absence of any important carboniferous system. It should be noted that the area of coast land situated between the Moray Firth and Aberdeen, and generally known as Buchan, presents entirely different characteristics, both topographically and ethnologically, to the true or Western Highlands of Scotland. It is neither mountainous, nor exceptionally picturesque, but is, in parts, somewhat wild and rugged, and, taken generally, is inhabited by an industrious seafaring, especially fishing, population.

RIVERS AND LOCHS.

The principal hydrographical features are the lochs, but owing to the configuration of Scotland the lakes and rivers, which are numerous, are unevenly distributed. Nearly all the lakes of size or beauty are situated in the west, while the important rivers, with the exception of the Clyde, are situated in the east. The following are the principal rivers, nearly all of which are celebrated for their salmon fisheries; the Tweed, which has an approximate length of about 100 miles; the Forth, which has its sources in Ben Lomond, and on the broad estuary of which stands Leith, Rosyth, Grangemouth and Granton (140 miles); the Tay, which has a very rapid current, and discharges into the sea more water—derived from the cloudy-mountain regions—than any other river in Great Britain, and is famous for its salmon fisheries (111 miles). Dundee is its principal town.



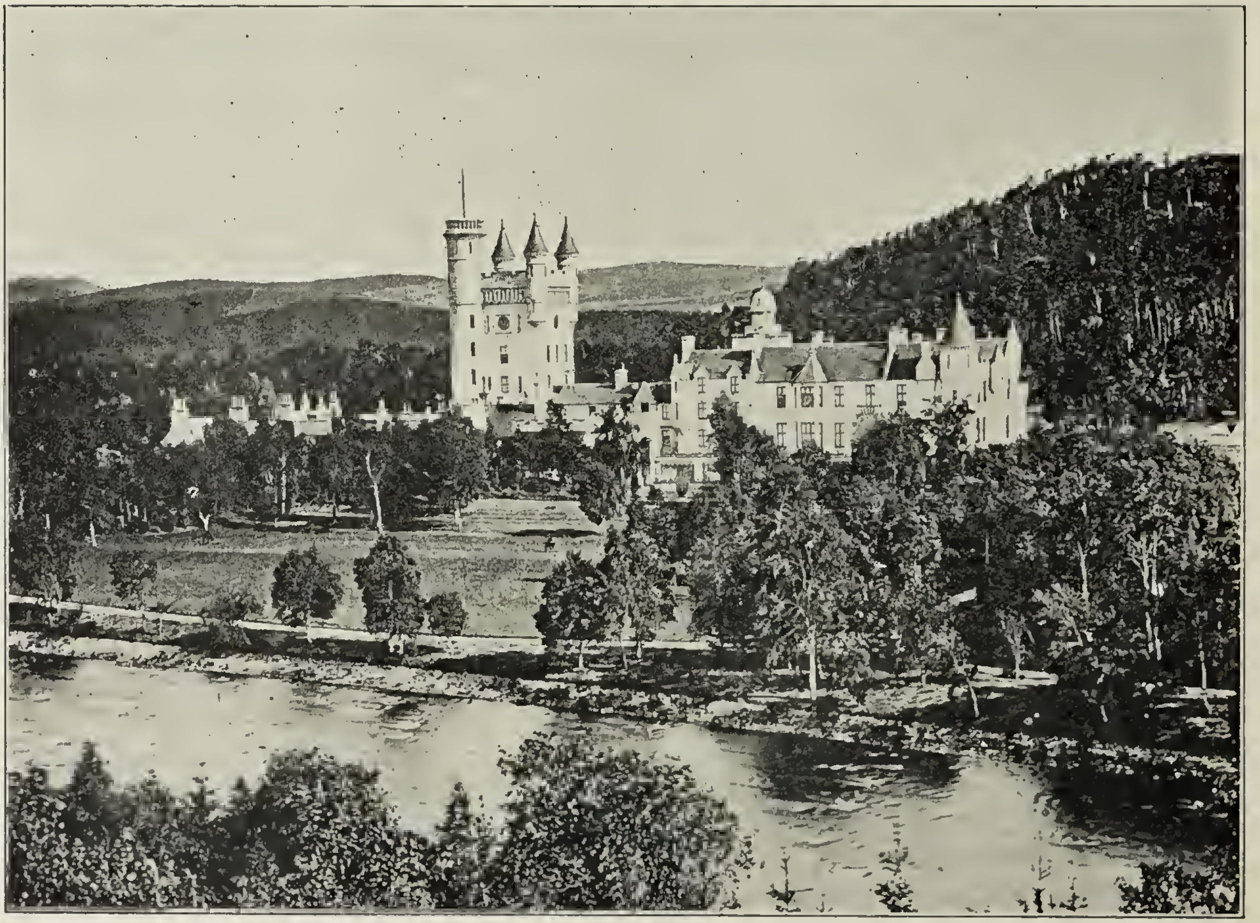
RUINS OF THE FAMOUS CATHEDRAL, ST. ANDREW'S, FIFE

North of the Tay a number of small streams cross the country from the mountains to the sea, the principal of which is the South Esk. Next comes the Dee, originating in the loftiest summits of the Grampians (80 miles), and with the City and Port of Aberdeen at its mouth. The Don (60 miles). Continuing round the bend of the coast at Kinnaird's Head, the rivers flowing in a northerly direction are the Deveron, the Spey (which has an exceptionally rapid current), and the Findhorn, rising in the Monadhliath mountains and flowing into the Moray Firth (50 miles). This latter is prone to overflow its banks, and in 1829 caused what is known as the Moray Floods.

The north and west coasts have no rivers of importance, until the Clyde gives to the latter coast the finest and most navigable river in Scotland. It rises in the highest part of the southern region and for many miles dashes along in the form of a mountain torrent, with a series of beautiful falls near the town of Lanark. It broadens and becomes navigable at Glasgow, and is about 80 miles in length. On the south coast of Scotland three rivers, the Dee, Nith and Annan, flow into the Solway Firth.

The lochs of Scotland are mostly situated in mountain glens, and are famous for their beauty and grandeur. In shape they are mostly long and narrow. Loch Lomond is one of the finest lakes in the British Isles. It is 24 miles long, and has an area of about 45 square miles. Loch Awe, in Argyllshire, has an area of over 30 square miles. The principal Scottish lakes are as follows: Loch Katrine, Gareloch, Loch Lomond, Loch Awe, Loch Long, Loch Goil, Loch Ossian, Loch Rannoch, Loch Treig, Loch Lochy, Loch Oich, Loch Ness, Loch Linnhe, Loch Leven,* Loch Eil, Loch Shiel, Loch Fyne,

* The only large and important lake in the Lowlands.



BALMORAL CASTLE
The Scottish residence of their Majesties, the King and Queen

VIEW OF BEN NEVIS FROM THE GLEN
This is the highest mountain in the British Isles (4,406 ft.)

Photo, L.M.S. Rly.

Loch Tay, Loch-nan-Uamh, and Loch Morar. In Inverness-shire Lochs Ness, Oich and Lochy, form the curious chain of lakes which help to form the Caledonian Canal (*q.v.*).

WESTERN ISLANDS.

There are over 510 islands and small islets situated off the west coast of Scotland, between Sutherland and Argyll, but of this number only 105 are inhabited. The total area of these scattered groups is 2,815 square miles, and the population about 82,000. So mountainous are these islands that only about 300 square miles of land is suitable for cultivation. The principal industries are fishing and the hand weaving of the famous Scotch tweeds.

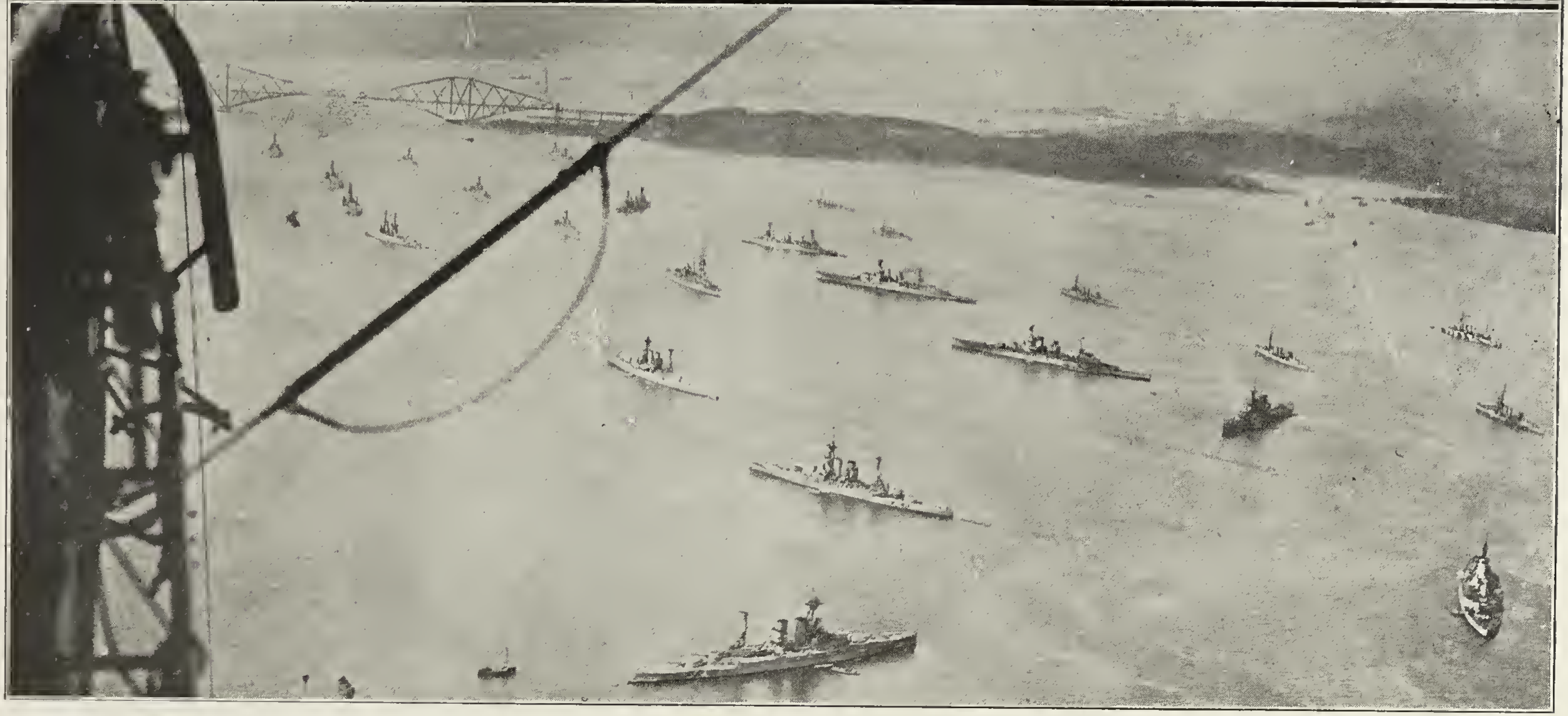
Up to the end of the 13th Century the " Hebrides " included all these islands as well as those in the Firth of Clyde, the Isle of Man, and the Irish Isle of Rathlin. The Norwegian name for this widely scattered group was *Sudreyjar* (Southern Islands). In later years this was latinised to *Sudorensis*, which name is still used for the Anglican bishopric of " Sodor and Man."

The principal groups are the Inner and the Outer Hebrides. The largest island in the former is Skye, which has an area of about 643 square miles, and forms a dependency of Inverness. It is separated from the mainland by the Sound of Sleat and Kyle Hea, which vary in breadth from 15 to 24 miles.

OBAN AND BAY
The Key to the Western Highlands

Photochrom Co. Ltd.

Portree is the chief town. The coast line is rocky, much indented, and extremely picturesque. Bold cliffs of basaltic rock rise up from the sea. The interior of the island is a mountainous moorland. There are several ridges rising to a height of about 3,000 ft. The climate of Skye is extremely changeable and mists are frequent, but the scenery in many parts is decidedly grand. There are places of historic interest. The banner of King Haco floated over its lochs, and Prince Charles Edward wandered over



(1) The Tay Bridge, just over 2 miles in length

(2) The Firth of Forth, from an airship, showing Sir David Beatty's Battle Cruiser Fleet assembled for War in the year 1914. (The Forth Bridge in the distance)

its heaths. It has been said that " to visit the island is to turn your back on the present and walk into antiquity. . . . The precipices of Storr tower grandly over the sea ; the eagle has yet its eyrie on the ledges of the Cuchullins. The sound of the sea is continually in your ears ; the silent armies of mist and vapour perpetually deploy ; the wind is gusty on the moor ; and ever and anon the hills are obscured by swirls of fiercely blown rain. . . ."* Such is a true pen-picture of the wilderness of Skye.

Among the other islands of the Inner Hebrides is Mull (367 square miles) dominated by the picturesque and lofty Ben More (3,185 ft.), Ben Buy (2,354 ft.), and Ben Creach (2,289 ft.) ; Islay (238 square miles) ; and Jura (160 square miles) ; with its range of mountains known as the Paps of Jura (2,571 ft.).

The Island of Lewis, which is about 52 miles in length and varies from 28 to 7 miles in breadth, is divided from the mainland of Scotland by the North Minch, an arm of the Atlantic, which is from 28 to 36 miles wide. It is the principal island of the Outer Hebrides and is divided into two portions, the northern half being known as Lewis and the southern half as Harris. The former is included in the county of Ross and Cromarty and the latter in the county of Inverness. Stornoway is the town of Lewis and Tarbert the only populous centre in Harris. The coast of Lewis is low and rocky. It is much indented, and there are many fine lochs and inlets. There are quite a number of small islets dispersed along the coast. The interior is somewhat bleak and desolate in appearance, and there are numerous small lakes and bogs. About 14 miles west of Stornoway there are some monolithic circles, or Druidical remains. Considered as a whole the island is comparatively flat, but there are several peaks rising 3,000 ft. above sea-level. Fishing and making " home-spun " tweeds are the principal industries of the few thousand

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* " A Summer in Skye," by Alexander Smith. (From *The Beauties of Scotland.*)

UNION STREET, ABERDEEN
Often called "The City of Granite"

inhabitants. In winter this island is often cut off from communication with the mainland by the heavy seas running through the Minch. The other islands of the Outer Hebrides include North Uist, South Uist, and Barra.

ORKNEY ISLANDS.

This group of about 85 islands is situated off the north coast of Scotland, from which it is separated by a channel called the Pentland Firth, about eight miles wide. These islands form a separate Scottish county, with an area of 375 square miles, and a population of just over 26,000. The group consists of a number of tiny islets and about nine larger islands, the principal of which are Mainland, Westray, Sandy, Eday, Stronsay, Ronsay, Shapensay, and Hoy S. and Ronaldshay N.

BOVRIL
KINGS

HIGH STREET, DUNDEE

The capital town of the Orkneys is Kirkwall, on the island of Mainland. It is a quaint, old-fashioned seaport with an extensive fishing industry. It has a main street over a mile in length and some very interesting ruins. The principal industries of these islands are fishing, agriculture and woollen work. The area under cultivation is approximately 85,000 acres. The coast line of the Orkneys is very irregular, and the shore, in some places, is flat and sandy, and in others bold and rocky. None of these islands can be considered mountainous. Hoy has, however, a small group of hills attaining a height of about 1,700 ft. The coast of this little island rises in parts over 1,000 ft. above the Atlantic surge. There are several lakes in these islands, but few rivers, and the climate is moist and cold, except in midsummer, when a continuance of bright weather may be expected. There are but few trees in the Orkneys, and, although quaint, these islands cannot be considered picturesque. There are *brochs*, or Pictish towers, on many of these islands; and between Mainland and Hoy lies Scapa Flow, the famous War Base of the Grand Fleet (1914–19), and the scene, on June 21st, 1919, of the scuttling of the German High Seas Fleet after its surrender at the conclusion of the Great European War (*q.v.*).

SHETLAND ISLANDS.

This group is situated about fifty miles off the north-east coast of Scotland. They number about ninety, only a few of which are inhabited. Taken collectively the Shetlands have a total area of about 551 square miles, and a population of approximately 29,000. The principal islands are Mainland, Unst, Bressa, Whalsey, Fetlar, Burra, Yell, Foula, Fair-Isle, Papa-Stour, and Muckle-Roe. The first of these comprises about three-quarters of the total area of the group, and on it is situated Lerwick, the only town in the Shetland Islands. The coast lines are much indented and are very bold and rocky, having an average height of about 400 ft. The precipice of Foula attains a height of over 1,100 ft. above sea-level. The interior of all these islands is very wild and rugged, but there is only one mountain, in Mainland, which attains a height of over 1,500 ft. (Rooness Hill). The almost entire absence of trees, with the exception of a few mountain ash, willow and birch, greatly detracts from the beauty of the wild and rugged scenery. The principal industries are fishing, agriculture, and the breeding of the small-sized Shetland ponies, cattle and sheep. Fair - Isle produces hand - knitted hosiery, and Unst fine Shetland woollen work. Muckle-Roe (or Flugga) is the most northerly point of the British Isles, being situated in latitude 60° 51′ N. The area under cultivation is approximately 51,800 acres. The Shetlands form a separate Scottish county.

EDINBURGH.

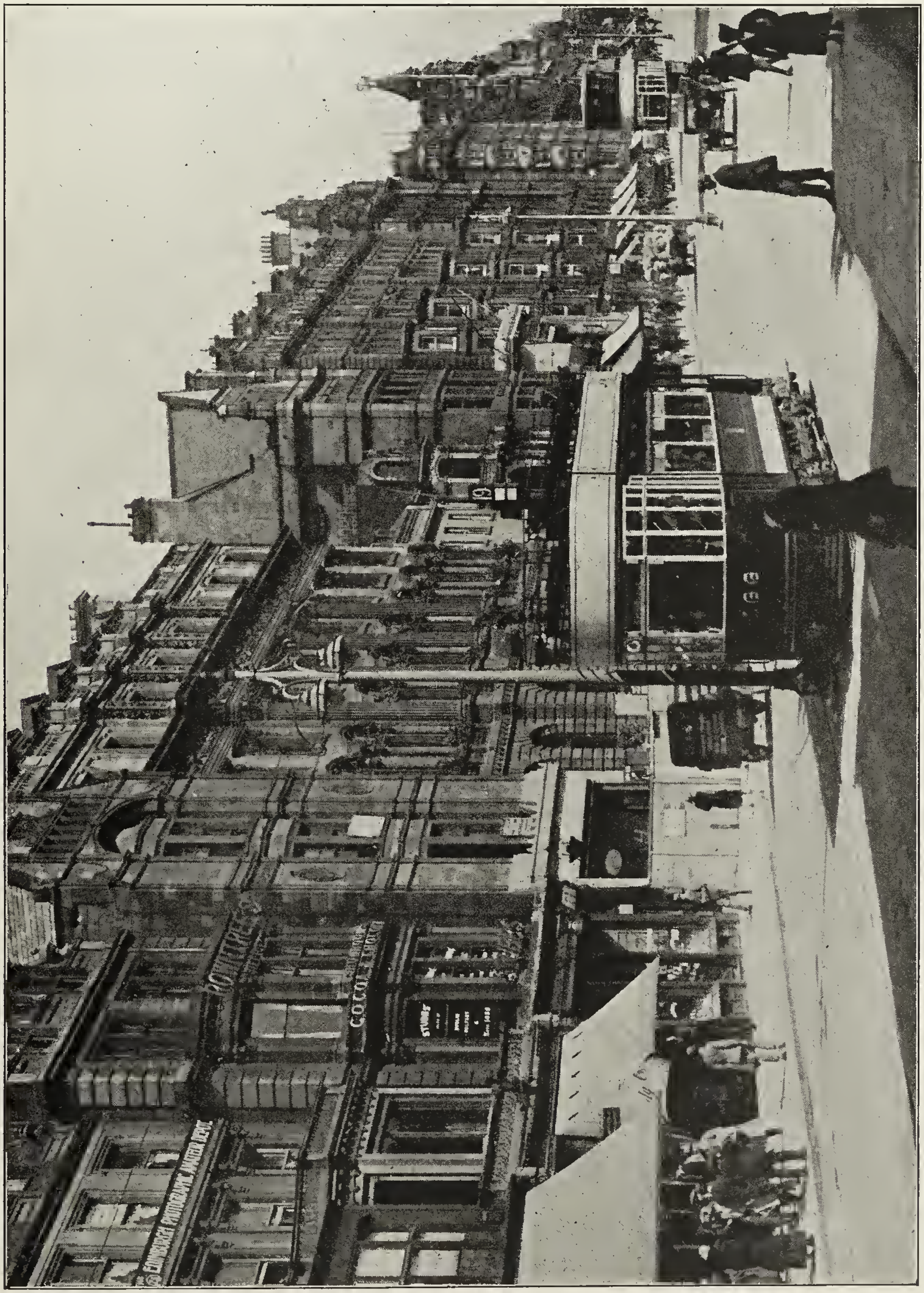
The capital of Scotland in 1921 had a population of 420,281, and in 1930 this was estimated to have increased to about 450,000. It is inherently a show city. " Nature itself made absolute this decree when, with virile hand, the site on which it stands was hewn." " History and romance followed in Nature's train, illuminating the town with a wizard touch, until to-day it lives as a miracle of old memories, grim and gay, sad and inspiring, fraught with the destinies of a proud race.

MALLAIG AND THE ISLE OF SKYE

Skye is one of the principal of the Western Islands of Scotland, and is separated from the mainland by the Sound of Sleat

" Curiously enough it has become a habit to allow the historic past almost to overwhelm all its other attractions when writing of Edinburgh, yet it still contributes its quota to the gaiety of nations. The chief promenade is Princes Street. This magnificent thoroughfare, so picturesquely situated, with its broad, clean pavements and wide roadway, its stately monuments, its noble buildings, its splendid shops and pretty gardens, has few rivals in the world.

" The Scott monument has claims to special notice. Its spire tapers 200 feet high, and in its base is a small museum. The statuettes on the exterior represent outstanding characters in 'The Waverley Novels.' The Castle Rock is still 'Time's Hoary Sentinel,' and from its heights the throat of cannon sounds the passing of time.



EDINBURGH, PRINCES STREET

Photo, Photochrom Co Ltd.

On the broad esplanade that leads to the entrance of the castle one may see the garrison troops at drill, giving a note of modern military colour to the picture. Here, also, are the memorials to brave men who, in striving to uphold the honour of their country, have added lustre to their own.

" Grouped at the outer gateway, the pensioned veterans, who act as guides, are interesting. From them something may be learned of the Scottish Arms carved on the archway of 'the Castle's seven gates,' of the chamber in which a luckless Argyll was imprisoned prior to his execution, and of other historic sites. The Barracks, hard by, were erected in 1796, when Napoleon cast the shadow of invasion across the channel, and beyond lies the old sally port with memories of the good Queen Margaret and the despotic Claverhouse.

" On the plateau of the King's Bastion stands Mons Meg, the Woolwich Infant of the earlier centuries, forged at Mons by a Galloway blacksmith, carried triumphantly to the sieges of Norham and Dumbarton, and burst in its almost obsolete old age in honouring the Duke of York with a Royal salute in 1682. Passing by way of St. Margaret's Chapel, the smallest church in the Kingdom, and visiting the Half-Moon Battery, from whence is fired the daily time gun, one may enter Queen Mary's rooms, learning the tradition of the birth of her son, the infant King James VI, and look through the window from which he was lowered in a basket to the Grassmarket below, to the keeping of the swift couriers who sought for him the safety of Stirling Castle.

" Finally, you enter the Armoury—Old Parliament Hall, the Westminster for Scottish Parliamentarians, who gathered under its arched roof to discuss the affairs of State. The treasures in this Hall, as it is to-day, form part of the nation's richest possession—her historic renown. There is not a tattered flag, a suit of mail, a halberd, nor a broadsword, but has a secret in its keeping eternally locked.

" Out from the Esplanade is Castlehill, the oldest part of the city. Here the Assembly Halls of the Church of Scotland and the United Free Church attract notice. Both buildings have connection with the dim past, one occupying the site of the early dwellings of the Marquis of Argyll and the Earl of Cassillis, while the site of the other was in part occupied by the palace of Mary of Guise, the mother of Mary Queen of Scots. The University Hall, on the slopes of the hill, is a picturesque building that, with its red roof and original style, is particularly prominent. It was established as a residence for students. The New College, the house of the poet Allan Ramsay, the first Ragged School, where Dr. Guthrie laboured so faithfully among the waifs and strays, and the statue of John Knox in the United Free Church College Quadrangle may be noted before steps are turned toward the Grassmarket and Lawnmarket.

" There is something attractively old-fashioned about the names of these places—the Lawnmarket, so called from its original institution as a market place for the sale of cloth ; the Grassmarket, also named from the obvious nature of its commercial use. The latter area was the scene of the Porteous Riots in 1736, when Captain Porteous, the chief of the city guard, was hung by the mob to a barber's pole. In the centre of the roadway the scaffold for the execution of criminals was wont to be erected, and the morbid crowds gathered to see the end of cut-purses, highwaymen and murderers. Lawnmarket has one centre of particularly grim memory in Brodie's Close, the home of Deacon Brodie, a cabinet maker by profession but a burglar by trade. His story formed the theme of a drama written in collaboration by W. E. Henley and Robert Louis Stevenson. He was executed on the town's gallows, to the equipment of which his invention had added many cunning additions. In James Court, Dr. Johnson and Bothwell sojourned before setting out on their tour in the Western Isles, and other closes in the vicinity lay claim to historic association.

" The Lawnmarket is a continuation of the old High Street—' the one fierce street ' which was the Edinburgh of the long ago. Princes Street has been the centre of much pomp and circumstance in modern pageantry, but the dream halo of High Street are the tales of chivalry and romance in peaceful and turbulent times. The old closes in High Street outbid each other in interesting associations. We read of Writer's Close in *Guy Mannering*. We learn that in Dunbar Close Cromwell's soldiers were quartered after their victory at Dunbar ; that in

Photo, L.M.S. Rly.

SIR WALTER SCOTT MEMORIAL, PRINCES STREET, EDINBURGH

Covenant Close stood the house where the Solemn League and Covenant (first signed on a flat tombstone in Greyfriars Churchyard) was heroically renewed ; that in Craig's Close were printed the first editions of the *Waverley Novels.* Anchor Close was known to the poet Burns as the meeting-place of the Crochallan Club, while the old Post Office Close held the town residence of the Eglintons, among them the Countess Susan, famous for her grace and beauty, and numbering Bonnie Prince Charlie among her conquests.

" Then there is John Knox's House and many other centres. Part of the old building of St. Giles dates back to the twelfth century. At the Reformation it was divided into four churches, and at a later period into three. It stands to-day in something like its pre-Reformation form. It contains the tombs of the Houses of Montrose and Argyll. The tattered flags and other military relics are testimony to the part Scotland has played on the battlefields of the world. At the east end of St. Giles stands the Mercat Cross, from which Royal proclamations are still ceremoniously made. Parliament House now forms part of Scotland's Court House. It was built in 1640 ; the façade and arcade, however, only date from the early part of the nineteenth century. Here, too, is the Advocates' Hall, with its fine windows, its antique portraits and high oaken roof. Adjoining this are the Advocates' Library and the Signet Library. ' Bluidy Mackenzie,' the infamous advocate, was the founder of the former, now containing some 300,000 volumes and 2,000 manuscripts, including the original script of Sir Walter Scott's *Waverley.* In Parliament Square is set a flagstone with the inscription, ' J. K. 1572,' marking the traditional tomb of the Reformer Knox. The County Buildings stand to the west of the square, while on the north side of High Street is the Royal Exchange, fulfilling a new purpose in housing various departments of the Municipal Government.

" Holyrood is the thank-offering of a Scottish king. Back in the misty ages, when Royal hunters twanged the lively horn and, with spear at rest, followed the lordly stag to the death, King David I met the adventure that prefaced the story of the old place. Attacked by an infuriated white hart while hunting hard by, he luckily escaped with his life, and in the fulness of joy at his deliverance erected the Abbey as a monument of gratitude. The Palace was an inspiration of King James V four hundred years later.

" Subsequent history relates how both Abbey and Palace were sacked and burned by the English in 1544, reinstated in the semblance of their former glory only to suffer again at the hands of Cromwell's soldiery. Many Royal names are writ in the history of the grey old pile, but the nimbus of romance encircles especially the memory of three—Queen Mary, Lord Darnley, and Rizzio (see *History*). Association with the ill-fated house of Stuart is seared on the heart of Holyrood. Among the most interesting chambers of this old palace are Queen Mary's audience chamber, Darnley's apartment with its relics and tapestries, the Queen's bed-chamber, and the supper-room—the scene of the murder of Rizzio.

" Among the other sights of Edinburgh must be mentioned the fine views from Arthur's Seat, Carlton Hill, and the top of the Nelson Monument (102 ft.) ; the King's Park, the Lincoln Monument erected to the memory of Scottish-American soldiers who fell in the American Civil War, the University, standing where Darnley, the husband of Queen Mary, was murdered, and, adjoining it, the Royal Scottish Museum, the Royal Infirmary, down by the Meadows, George Heriot's Hospital (now a day school), George Watson's College, the New Medical School, the M'Ewan Hall, the Royal Institution, and the National Gallery—the last two on the Mound, within a couple of minute's walk from Waverley Station. Then there are the Botanical Gardens, St. Mary's Cathedral, Merchiston School, Fettes College, Donaldson's Hospital, the Dean Bridge and the Cemetery, where the ill-fated Sir Hector Macdonald lies buried. Turn where you may in the old or new town, in the centre of the city or the suburbs, you are ever in touch with some link in bygone Scottish history or evidence of the history which Scotland is writing for herself to-day."* (For Glasgow, Aberdeen and other cities, see *Gazetteer.*)

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* *The Beauties of Scotland.*

OTHER CITIES AND TOWNS. For a description of all the other cities and towns of Scotland, see under the general heading, *Gazetteer of Cities and Towns of the Empire.*

COMMUNICATIONS.

The majority of the roads of Scotland are excellent. The chief navigable rivers are the Clyde, the Forth and the Tay ; these provide convenient outlets for the products of the Central Valley of Scotland. The rivers of the north are too rapid to be of use for commercial purposes, and they flow through regions which are very thinly populated, and where the towns are of no particular commercial importance. The trade of Glasgow and the traffic of the Clyde generally have been increased by the deepening of the Clyde itself from Dumbarton to Glasgow, so that large vessels are able to reach the latter city. Canals are numerous, but their depth is not sufficient to permit of their being navigated by any but small vessels. The principal are the Forth and Clyde Canal, which connects the two rivers from which it takes its name ; the Crinan Canal, cut through the Mull of Kintyre or Cantyre, which shortens the voyage from the Clyde to the Hebrides and the north-west coast ; and the Caledonian Canal, which utilises Lochs Ness, Oich and Lochy, giving a complete waterway for a distance of over fifty miles from the west to the east coast of Scotland.

AGRICULTURE.

Natural conditions have a great effect upon the state of affairs in Scotland so far as agriculture is concerned. Much of the country is mountainous, a great portion suffers from a thin soil, and then the heavy rainfall of the west exercises a powerful influence. As a result the growth of agricultural products is confined to the coastal regions, the lowland districts, and some of the sheltered valleys of the Highlands. Speaking generally, 42° F. is approximately the lowest temperature for food products of the temperate zone, and they require many summer days with higher temperatures to reach maturity. No portion of the British Isles has a large margin of climatic

THE CORRA LYNN FALLS

A beautiful fall on the Upper Clyde, near Lanark

Photo, L.M.S. Rly.

influences available for cereals, and Scotland, in particular, has few tracts which are suitable for the growth of wheat. Consequently the cereals of Scotland are mainly oats and barley, each of which is hardier than wheat, and more capable of resisting moisture. The most productive counties are Fife and the Lothians, wheat being confined in the main to the Lothians and Berwick. Root crops are very important, especially in the south of Scotland, where they are required for the winter feeding of cattle. Fruit-growing is increasing in the south, and more and more attention is being paid to dairy-farming, a branch of agricultural industry which ought to prove increasingly profitable.

Still it is the pastoral part of farming which is, after all, of the greatest importance to Scotland. About 75 per cent. of the country is covered with grass of some kind, and all the hilly and mountainous districts are more or less pastoral regions.

FISHERIES.

The fisheries of Scotland may be divided into three parts, namely, the West Coast, the Orkneys and Shetlands, and the East Coast. The fish caught include cod, herring, mackerel, lobster and turbot. Stornoway in Lewis, and Portree in Skye are the centres of the Hebrides fisheries. Being remote from the populous Midland Valley, the Hebrides have laboured under a disadvantage as regards transport ; but railways, aided by Government subsidies, have been constructed through the Scottish Highlands, and thus provide quick transit. The Clyde ports are also engaged in the Western fisheries. Lerwick is the centre of the northern fisheries, and as the fish are largely salted for the markets of the Continent, quick transit is not here so necessary. The chief centres of the Eastern fisheries are Wick, Aberdeen, Peterhead, Stonehaven, Fraserburgh and the Forth ports. From Aberdeen and Leith trawlers go eastwards to the North Sea banks. The whale fishing in the Arctic seas, from the eastern ports, formerly important, has now greatly declined. Salmon are caught in the Tweed, Tay, Spey, Don and other rivers. About 30,000 men are engaged in the fishing industry. The average annual value of the fishing industry is £4,250,000.

MINING.

The Midland Valley of Scotland is rich in minerals, and the mining industry is chiefly centred in this region. Coal and iron are the most important minerals. The chief coalfields of Scotland are four in number, and are all situated in the Midland Valley : (1) the Ayrshire coalfield ; (2) the Central coalfield in Lanark, Linlithgow, and Stirling ; (3) the Edinburgh or Midlothian coalfield ; and (4) the Clackmannan and Fife coalfield. They produce about one-sixth of the coal supply of Britain, or slightly less than that of the South Wales coalfields. Oil shale is an important mineral product of the Midland Valley, especially in Midlothian, West Lothian, and Fife ; from it are obtained by distillation, oil, wax, and ammonium sulphate. The chief iron centres of Scotland are Glasgow, Coatbridge, Motherwell and Kilmarnock. Excellent material, suitable for the construction of bridges, reservoirs and large buildings is provided by the granite of Aberdeenshire ; and the red sandstones of Caithness, when cut into slabs, are excellent for pavements. Blue, green and grey slates are found in Perthshire and Argyllshire, at Easdale and Ballachulish. Peat is found in many parts of the Highlands, where it is cut and dried for fuel. In the Lowther Hills, lead, associated with a small percentage of silver, is found, and both metals are extracted.* (See *Mining*).

COMMERCE.

The foreign trade of Scotland is carried on mainly through Glasgow, which has excellent communication with America. The ports of the east coast have very good communication with the chief centres of the Baltic, and North Sea countries of the continent of Europe. Owing to the cheapness of transit, there is a large coasting traffic between England and Scotland, regular sailings taking place from London to Leith, Aberdeen and Glasgow. The sea routes between Scotland and Ireland are Glasgow and Greenock to Londonderry, Belfast and Dublin ; Ardrossan and Troon to Belfast ; and Stranraer to Larne (the shortest sea-passage between Great Britain and Ireland). (See *Commerce.*)

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* Pitman's Commercial Atlas.

IRELAND

THE FREE STATE AND NORTHERN IRELAND

THE Island of Ireland is divided, for administrative purposes, into two self-governing Dominions. The southern half forms the Irish Free State (Saorstat Eireann), and the Province of Ulster has become the State of Northern Ireland. They are both co-equal partners in the British Commonwealth of Nations.

KINGDOM OF TARA.

Although the story of this Island is given in the section describing the numerous and closely interwoven events forming the history of the British Isles, it is, perhaps, advisable to briefly review here the past and present of these new Dominions. About the earliest inhabitants of Ireland little is definitely known, although in several parts of the Island there are traces of the Stone Age. According to legend a Milesian race, who came from Scythia, established the Kingdom of Tara in 500 B.C. The country was divided into five principalities under the five sons of the *Ardri*, or King. The basalt columns on the Antrim coast, called the Giant's Causeway, are ascribed, in these legends, to the remnants of a bridge which was intended to join Ireland and Scotland!

From discoveries made recently in the West of Ireland it appears that bronze implements must have been known in the 17th Century B.C. Early in the Iron Age Britons from the south-west coast of England appear to have crossed the narrow intervening sea and settled in the south-east. At the same time Picts from the far north of Britain formed similar settlements on the north-east coast.

ST. PATRICK.

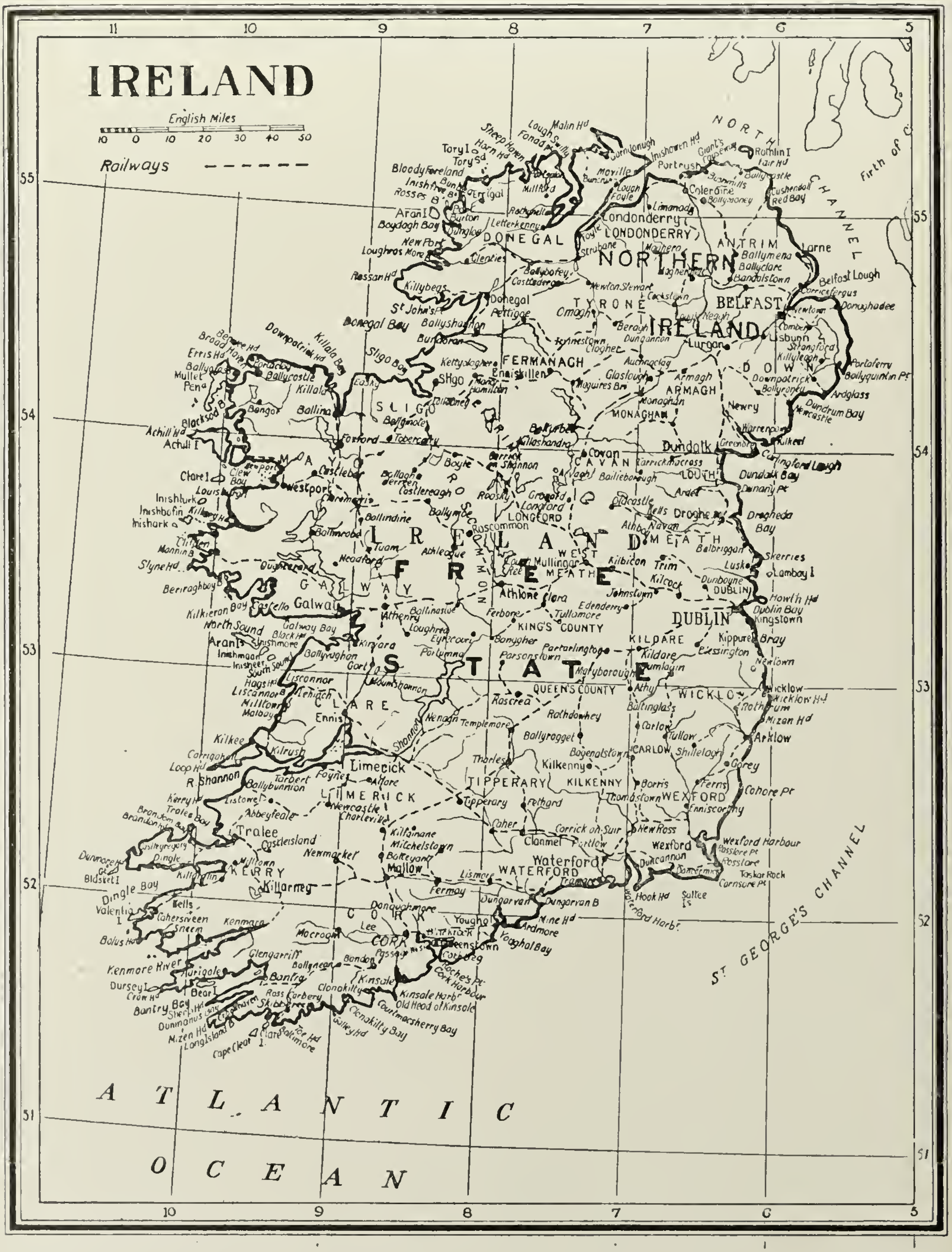
The Roman occupation of Britain did not extend to Ireland, but this island was nevertheless known to the world conquerors, who referred to the chief tribe therein as the *Scoti*. Although Christianity did not become general until St. Patrick, who was born in England, and who spent many years as a slave in Ireland and in Gaul, eventually returned to the Island as Bishop of Auxerre in 432, it was nevertheless known to a considerable number of the people at least a century earlier. St. Patrick landed on the coast of Wicklow and succeeded in establishing Christianity throughout Ireland.

Relatively little is known regarding the history of Ireland previous to the invasion of the Danes and Norwegians about 798 A.D. It is said that the name of the Island was derived from the Scandinavian *Ira-land* (or land of the Irish). The Provinces of Munster, Ulster and Leinster also obtained their names in a similar way.

SCANDINAVIAN INVASION.

The principal event of the Scandinavian Invasion, which came very largely from the Hebrides (*q.v.*), was their defeat at the Battle of Tara in 980, and the final breaking of their power at the Battle of Clontarf in 1014. After the withdrawal of the Northmen, continual disputes occurred between the rival chiefs of Munster, Leinster, Connaught and Ulster.

In 1152 the deposed Leinster chief appealed to King Henry II of England for aid. This was granted and Richard de Clare, the Norman Ear of Pembroke (Strongbow),


IRELAND
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IRISH FREE STATE
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TIPPERARY
KILKENNY
CARLOW
WEXFORD
LIMERICK
KERRY
CORK
WATERFORD
Londonderry
Belfast
Dublin
Galway
Limerick
Cork
Waterford
Sligo
Tralee
Killarney
Wexford
Dundalk
Drogheda
Athlone
Ennis
Clonmel
Kilkenny
Mallow
Queenstown
Youghal
Kinsale
Bantry Bay
Dingle Bay
Galway Bay
Sligo Bay
Donegal Bay
Belfast Lough
Dundalk Bay
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Cape Clear
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SPECIALLY DRAWN FOR THE ENCYCLOPEDIA OF THE BRITISH EMPIRE BY A.H.LEE.

landed on the coast of Waterford, with an army of 1,200 horse and foot, in the year 1170. Two years later Henry II landed with a large army and received the submission of the Irish Chiefs. For nearly 300 years the Anglo-Norman rule in Ireland was confined to an area of 600 square miles, which was called the English " Pale."

IN THE MIDDLE AGES.

From this period onward the detailed history of Ireland can be followed through the pages of English history (*q.v.*). It is sufficient to say that in the reign of Henry VII English rule was extended. Robert Poyning, the Lord Deputy of Ireland, summoned the famous Parliament of Drogheda (1494). It was here that the Statutes were enacted which made the Irish Legislature subordinate to that of England. This was known as *Poynings Law.* The title of King of Ireland was conferred upon Henry VIII by a later parliament.

The conquest of the whole island was accomplished during the reign of Queen Elizabeth, and it was in the time of James I that the potato was introduced. This caused undue dependence upon this one form of food, and several severe famines in the long ago caused widespread starvation.

FOUNDING OF ULSTER.

In the days of James I the failure of a small rebellion in the north of Ireland caused many of the leading families, who were implicated, to leave the country, and their lands were given to English and Scottish colonists. This was the founding of Ulster (*q.v.*). These immigrants were adherents of the Reformed Church, and in subsequent years they populated the whole north of Ireland. In 1920 Ulster became a separate Dominion under the title of the State of " Northern Ireland."

The part played by Ireland during the Commonwealth and succeeding years, up to the Rebellion of 1798, will be found elsewhere. In that year, however, after the suppression of the rising, the Act of Union was passed combining the English and Irish Parliaments. Then came the Catholic Emancipation in 1829, and the establishment of big relief works to mitigate the effects of the potato famines between the years 1831–47.

HOME RULE.

The first Irish politician at Westminster to put forward a demand for Home Rule, or a separate parliament for Ireland, was Isaac Butt (1813–79). Then came Charles Stewart Parnell (1846–91), who succeeded in getting the English Liberal Party to adopt the policy of giving a measure of Home Rule to Ireland.

Years of failure to pass this measure through both Houses of the English Parliament embittered the extremists in Ireland, and a movement known as Sinn Fein (" Ourselves Alone ") was started. However, in 1914 the Home Rule Bill was passed, but, owing to the outbreak of the Great European War, a suspensory clause was added to cover this period of world-wide turmoil.

The Sinn Fein movement then became an elaborate and warlike organisation. The result was open rebellion at a critical period in the history of the Empire and of civilisation. Much bad feeling was engendered on both sides of the Irish Sea by the casualties caused by the guerilla warfare adopted by the extremists with the aid of foreign arms, money and men. Sinn Fein demanded the recognition of an Irish Republic.

Efforts were made by the British Government to find a solution to the problem, which was complicated by (1) the position of loyal Ulster in the north, which did not want either a separate legislature or to enter an All-Ireland Parliament; (2) the Protestant minority in the south ; and (3) the large section of loyal Catholic Irish. There were, thus, religious as well as political problems.

The final solution of the Irish question—the events of which are of too recent occurrence to be dispassionately sifted and docketed for historical reference—reflects no small measure of credit on the able negotiators of both sides who effected, and subsequently maintained in the face of considerable opposition, the Peace Treaty of December 6th, 1921, which was an honourable settlement from all the divergent points of view.

IRISH FREE STATE.

The constitution of this new Dominion, which has an area of 26,592 square miles and a population of about 3,139,688, was established by the British Parliament in 1922. The Irish Free State (Agreement) Act provides for the co-equality of the new Imperial entity with the other self-governing Dominions ; the power of the Government to be derived from the people ; the national language to be Irish, with English as an official language ; for the freedom of conscience and the illegality of any law prohibiting the practice of any religion ; the creation of a Legislature, comprising, the King, a Senate (Seanad Eireann), and a Chamber of Deputies (Dail Eireann), members of the Upper House to be chosen from those who have rendered useful public service, and members of the Lower House to be elected by secret ballot and by the direct vote of all citizens above the age of 21 years ; the representation to be not less than one member for every 30,000 of the population ; each member is required to take the oath of—" true faith and allegiance to the Constitution of the Irish Free State as by law established, and that I will be faithful to His Majesty King George V, his heirs and successors by law in virtue of the common citizenship of Ireland with Great Britain and her adherence to and membership of the group of nations forming the British Commonwealth of Nations."

Other clauses of the Act, which was accepted and ratified by both Governments, provided for the creation of a limited Army, and its employment in foreign wars only by the consent of the Irish Parliament ; the investment of the executive authority in the King, and its employment, in accordance with the customary practice, through a Representative of the Crown (as in the case of Canada) ; the creation of an Executive Council (*Aireacht*), responsible to the Chamber, and consisting of not more than 12 Ministers (*Airi*), appointed by the Representative of the Crown, of whom four Ministers shall be members of the Chamber, and a number not exceeding eight shall be chosen from all citizens eligible for election to the Chamber who shall not be members of Parliament during their term of office. The remaining sections of the Act establish a Judiciary, with the right of appeal to the King-in-Council.

Among the Dominion Premiers at the Imperial Conference in 1922 was the Representative of this young member of the British Commonwealth of Nations.

NORTHERN IRELAND.

This new State consists of six counties in the old Province of Ulster together with the Parliamentary Boroughs of Belfast and Derry. The counties are Antrim, Armagh, Down, Fermanagh, Tyrone and Londonderry. The total area is 5,263 square miles and the population about 1,300,000. Responsible Government was given to Northern Ireland by the Act of 1920. The Executive power is vested in the King and the Parliament of the new State. There is a Senate of 26 members with the Lord Mayor of Belfast and the Mayor of Derry as ex-officio members, and 24 other Senators elected by the House of Commons of Northern Ireland. This Lower House consists of 52 elected members. It is provided that although this State is a separate Imperial entity it shall be represented in the British Parliament by 13 members.

THE GRAVE OF ST. PATRICK, DOWNPATRICK

The Legislature possesses full powers except over matters relating to the Crown, the Navy, Army, Air Force, and Territorial Army, the making of war or peace, foreign treaties, titles, treason, alienage and naturalisation, foreign trade, submarine cables, wireless, aerial navigation, coastal navigation marks and lights, coinage, trade marks and patents.

Special Courts of Justice have been established, together with an Exchequer into which the proceeds of all taxes and revenues are paid. The contribution of Northern Ireland to the expenditure of Great Britain (on Defence, etc.), is temporarily fixed at £8,920,000 a year, but a certain

GLENDALOUGH AND "SEVEN CHURCHES"
One of the beauty spots of Ireland

Photochrome Co. Ltd.

repayment is to be made out of the Consolidated Fund of the United Kingdom as a residuary share of the reserved taxes.

IRELAND TO-DAY.

It has not been found possible thus early in the lives of the new States of Ireland to divide what is non-politically homogeneous territory into two distinct halves for geographic and economic description. For centuries the activities and communications of both North and South have been closely interwoven, and any disassociation here would mean a complete absence of both facts and figures.

It should be remembered that no arbitrary political boundary will affect the topography of Ireland, or materially alter its principal communications and industries, although it may, in the years to come, tend to gradually divert the channels through which the latter passes at the present time. For these reasons Ireland will be described here as a homogeneous island, in the same way as the Federation of Australian States and the separate political entities forming British North Borneo.

Ireland is divided from Great Britain by the Irish Sea, the St. George's Channel, and the North Channel. The total area of the country, including the few island adjacent to its coasts, is 32,586 square miles, or a little more than the area of Scotland and just under one-quarter of the total area of the United Kingdom. For many years the population of Ireland has been declining. In 1801 it has 5,500,000 inhabitants, in 1841 the number had risen to 8,000,000, in 1871 it had declined to 5,400,000, in 1911 it had fallen to 4,381,951, and in 1930 it was estimated at 4,270,000. Much of this decline in the population has been due to the emigration of Irish people to the United States and Canada during the years preceding the Great European War.

COAST LINE.

Ireland has an extensive coast line, and presents a bold front to the Atlantic Ocean. The majority of the harbours on the east are poor, although they are those which are most utilised, and they have had to be improved artificially. Those on the west, on the contrary, are particularly fine, and were it not for the peculiar circumstances which have militated so much against Irish advancement, this country might now, with the modern advantages of science, occupy a more important position in the commercial world. It is useful to see how some of the Irish ports are utilised at present, and the advantage that is taken of them in connection with the traffic to America.

As is well known, Ireland lies between the most important ports of Great Britain and North America, and the quickest routes connecting these pass through Ireland to Queenstown in Cork Harbour. From London and the South of England, the most direct route is *via* Fishguard, in Pembrokeshire, and Rosslare, in County Wexford. This is a comparatively new route. But the major portion of the traffic goes *via* Holyhead and Dublin, which is the most direct route for the Midlands. From Scotland the shortest route lies through Stranraer and Port Patrick, in Wigtonshire, to Larne, in Antrim. Steamers to Canada from the Mersey and the Clyde pass round the north of Ireland, and for these the mail port is Moville on Lough Foyle. For the Canadian ports, especially those of the St. Lawrence, Galway on the west coast offers very considerable advantages, and there have been proposals on foot for converting one or other of its natural harbours into a port for the American traffic. Such a change would not only shorten the sea voyage from America but it would also shorten the railway journey, as the present mail route between Dublin and Cork is extremely circuitous. The harbours of the south-west, especially those of Cork and Kerry, are well known, and Bantry Bay, in the former county, is often utilised as a base for the British Navy.

MOUNTAINS.

The coast line of Ireland is very rugged. In the west and north-west it is much indented, but in the east the only important inlets are the Loughs of Belfast, Strangford, and Carlingford, and the bays of Dundrum, Dundalk and Dublin. On the north coast are Loughs Foyle and Swilley, Skeep Haven, Donegal Bay, Sligo Bay and Killala Bay. On the west coast are Clew Bay, Galway Bay, Shannon Mouth and the Bays of Dingle, Bantry and Dunmanus. The south coast has the harbours of Cork, Waterford and Wexford. Many of these indentations of the coast line furnish natural deep-water

Photo, L.M.S. Rly.

KILLARNEY
Lough Leane from Ross Island

harbours which it would be difficult to surpass. The shores in most parts are rocky and picturesque.

The mountain ranges of Ireland mostly run parallel to the coasts ; the only two ridges which traverse the interior are the Devil's Bit and Sliebhbloom, in the counties of Munster and Leinster, attaining, in the Keeper, a height of over 2,300 ft. This arrangement of the mountain systems causes the interior to be composed of an elevated plain surrounded by lofty mountains sloping gently down to the coasts. The highest mountain in Ireland is Carrantual (3,414 ft.), situated in County Kerry. Among other Irish peaks must be mentioned Lungaquilla (3,040 ft.), in County Wicklow ; Milrea (2,733 ft.), and Nephin (2,640 ft.), in County Mayo ; Brandon (3,122 ft.), in County Kerry ; Mona Vallagh (2,600 ft.), in County Waterford ; Kippure (2,474 ft.), in Dublin County ; Sliebhdinard (2,796 ft.), in County Down ; and the famous cliff mountain Slieve League (1,972 ft.), which rises precipitously out of the sea on the coast of County Donegal.

The mountains of Antrim are less famous for their height than for their termination in the Giant's Causeway—a veritable chaos of rocks, caves and crystalline columns, of unsurpassed grandeur in both sunshine and storm. The interior of Ireland is composed of rich green undulating country, in many parts highly fertile and well-wooded, and in others, owing to the encircling coast ranges, very wet and boggy.

RIVERS AND LAKES.

The principal rivers of Ireland are the Shannon (navigable for a distance of 220 miles), the Brandon, Lee, and Blackwater (principally in County Cork) ; the Suir and the Barron (which unite to form Waterford Harbour) ; the Slaney (the broad mouth of which forms Wexford Haven) ; the Liffey (running through Dublin) ; the Boyne, the Bann and the Foyle.

In addition to the sea-coast loughs there are many beautiful inland lakes in the " Emerald Isle." Lough Neagh, which is 17 miles long and 10 miles broad, and is situated principally in County Antrim, is the largest lake in the British Isles. It is, however, not renowned for its beauty, as its banks are low-lying and marshy. Lough Erne, when its basin is full, forms a sheet of water about 30 miles in length, and possesses many pretty little islands and well-wooded shores. Lough Corrib is 24 miles long and varies from 1 to 14 miles in breadth. Loughs Mask, Allen, Ree, Derg, Conn and Collin, are all large and picturesque inland lakes.

LAKES OF KILLARNEY.

Among the smaller lakes, whose beauty more than compensates for their lack of size, must be mentioned the famous Lakes of Killarney. " Their great charm lies in their position in the midst of majestic and lofty mountains, whose sides—often rocky, ragged and steep—are covered with a wonderful succession of luxuriant vegetation. Tree-crowned islets dot the lakes, and cataracts of every description abound. The lakes, which follow each other in an irregular line, are three in number—the Upper Lake, two and a half miles in length and half a mile in breadth ; the Middle Lake, known also as the Torc Lake, and the Muckross Lake, two miles long and one mile broad ; and the Lower Lake or Lough Leane, five miles in length and three miles broad, near one end of which the town of Killarney stands. As all the lakes have a connection by rivers or channels, boats can pass from one end to the other. Perhaps the abiding impressions of Killarney are the rich colouring, the profusion of the vegetation and the extraordinary purple haze on the mountains at certain times and hours. Many of the roads bordering the lakes consist entirely of thick avenues, and some of them are smothered in shrubbery and undergrowth."

The climate of Ireland is generally mild and humid. The winter, although long, is seldom accompanied by prolonged frosts. In summer the average temperature is lower than that of England, and, owing to the superfluity of moisture, the air is often misty. But the dampness has its compensation in the peculiarly rich verdure it conjures from the soil, which has given to Ireland the name of the Emerald Isle.

DUBLIN.

The capital of the Irish Free State possesses all the graces and distinctions incidental to a modern metropolis, with a population (including suburbs) of about 318,000. This city has an indefinable old-world flavour and charm which is denied to the other capitals

THE UPPER LAKE, KILLARNEY *Photo, L.M.S. Rly.*

of the British Isles. "Its modernity is not quite that of the present age, although in the matter of public improvements and comforts it is completely up-to-date. Yet with all its magnificent buildings, its splendid shops, its extensive parks, and its unrivalled railway and electric tramcar facilities, Dublin gives the impression of belonging to a period much antecedent to the present one. Dublin, too, has quite another character of its own. It has little real affinity, except a surface one, with either an English or a Scottish city, outside the matter of language, and is more akin in appearance, in people, and in thought to the south of France. London may be more cosmopolitan, but Dublin is more continental, especially as regards its Sundays.

"The Sunday, throughout Ireland—except in parts of Northern Ireland—is regarded as a day of recreation. Dublin's splendid position tells much in its favour. Standing on the shores of a great bay, it is so built that no part can be more than three miles away from a pleasant countryside, and the mountains on the south frontier come so close that they form a background for some of the streets. The River Liffey divides the city into two compact parts, and the numerous bridges constitute some of the pleasantest 'view places.' Sackville Street, renamed O'Connell Street, which has been rebuilt, may be regarded as the real centre. Not only most of the tram lines, which extend into the suburbs for several miles, radiate from it, but it is only a short distance in a straight line from the North Wall, Westland Row, Amiens Street and Tara Street Railway Stations.

"The walk along the quays to O'Connell Street affords an interesting glimpse of the maritime activities of the city, and the road passes the Custom House, usually regarded externally as the finest public building in Dublin. It was built in 1794 at a cost of half a million sterling, and its graceful dome and four decorated fronts give it a most distinguished appearance.* Passing the Custom House along Eden Quay—on the opposite side of the river are two theatres—the visitor arrives at the O'Connell Bridge, which unites that street and Westmorland Street, and sees on the other side of the Liffey the tower of Christ Church Cathedral and the spires of St. Patrick's Cathedral.

" O'Connell Street, previous to the rebellion of 1916, did not measure half a mile in length, but its width, its line of monuments, its lofty buildings, and its contraction at both ends gave it the appearance of a square. Among the monuments the tall and graceful column known as Nelson's Pillar impresses by its height, and the memorial to O'Connell—which contains some fifty figures—by its beauty. The General Post Office, with a portico supported by six columns, and the Rotunda, a collection of concert and public rooms, mark the more important architectural features, which also comprise several first-class hotels. Round the Rotunda Gardens the road leads to Broadstone Station. Close by the ' Pillar,' rises the Roman Catholic Pro-Cathedral, in Marlborough Street, a domed building in the Doric style, surmounted by statues. Many of the Roman Catholic churches in Dublin and throughout Ireland are built in this style—without spire or steeple. In Abbey Street is the Irish National Theatre.

" Over O'Connell Bridge or past the Bank of Ireland, the old Irish Houses of Parliament, there comes into view, opposite, Trinity College. The Bank was built between 1729 and 1790, the front facing College Green being the earliest, and it occupies a space of about an acre and a half. The principal side consists of a colonnade of the Ionic order, extending around three sides of a quadrangular recess, and the east front has a portico containing six columns, statues surmounting the ends. Internally, the House of Lords still remains intact with its tapestries, but the House of Commons has been deprived of its gallery. Trinity College, opposite, fronted by statues of Burke and Goldsmith, stands in extensive grounds, there being a park of twenty acres attached. The library contains a copy of all books published in the Kingdom, and among its manuscript treasures is the *Book of Kells*, a copy of the Gospel dating from the end of the sixth century.

" College Green, which is a paved space, offers a choice of ways. Following the Grafton Street continuation of Westmorland Street, perhaps the most fashionable shopping part of the capital, the end comes in less than half a mile with the beautiful and spacious park and square known as St. Stephen's Green, which merits special attention for its lake and fine collection of birds, and for a number of public buildings around. In the adjoining Merrion Square stand the National Gallery and the National History Museum."†

Dublin Castle, once the official residence of the Viceroy, is a somewhat disappointing building, near to which stands Christ Church, or the Cathedral of the Holy Trinity, founded in 1038 and rebuilt in 1170. St. Patrick's Cathedral, situated in one of the poorer parts of the city, was originally built in 1230 and 1255, but was restored in 1864. The famous Phœnix Park embraces an area of 1,760 acres, and is seven miles in circumference. In it there are a " People's Park," zoological gardens, playing grounds, official residence of the Governor-General, and the old Hibernian Military School. The chief suburbs of Dublin are Clontarf (three miles), the scene of the great battle in which King Brian Boru crushed the Danes (1014) ; Sutton, a pretty little seaside residential suburb ; Howth, a seaside suburb with the famous Hill of Howth ; Malahide, with an old castle and Gothic abbey ; Swords, with its round tower and other historic remains ; Dundrum, the Three Rock Mountain and Leopardstown Racecourse ; Carrickmines, with its famous gorge, called the Scalp ; Kingstown (six miles), with its fine harbour and English-Irish passenger and mail steamboat service with Holyhead ; Dalkey, an extremely picturesque suburb ; Killiney Bay, with its glorious sands and scenery ; Lucan, with its sulphur springs ; Maynooth and its Roman Catholic College ; Taghadoc and the round tower ; Blessington and Poulaphouca in the romantic Wicklow mountains ; Newbridge, the station for the old Curragh Irish military camp, race-course

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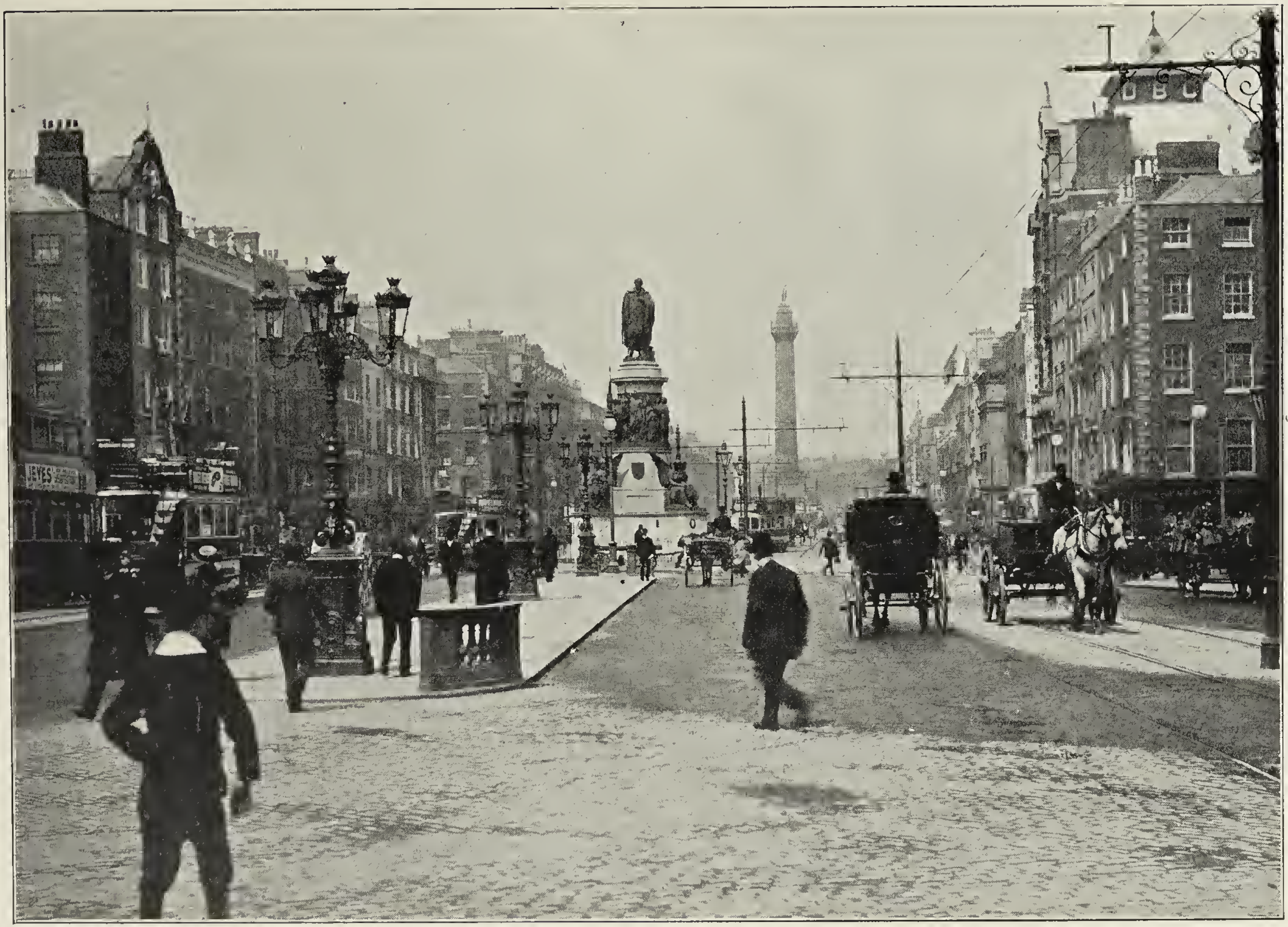
* Damaged in the Rebellion.

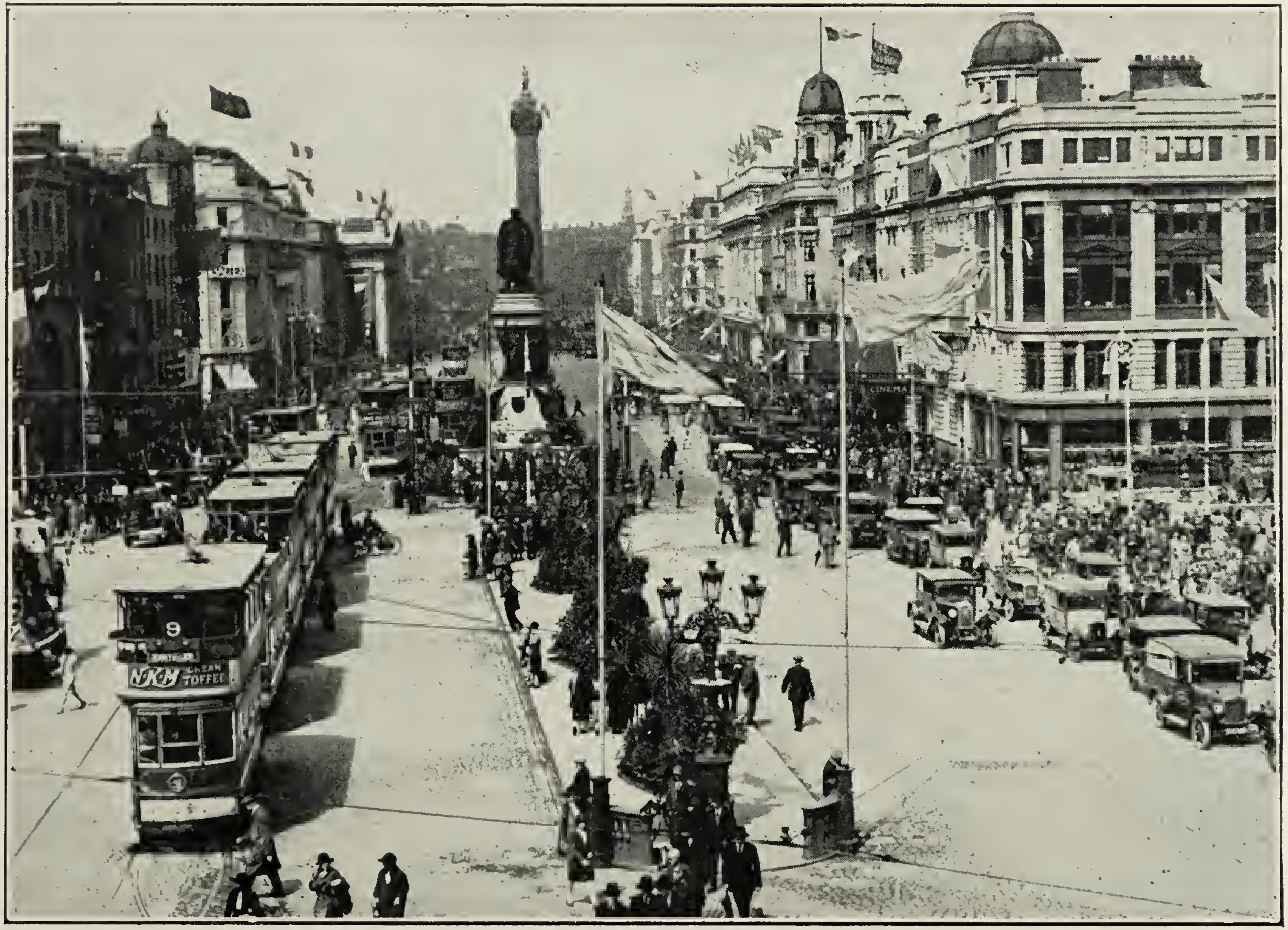
† *In Ireland.*



O'CONNELL STREET, DUBLIN

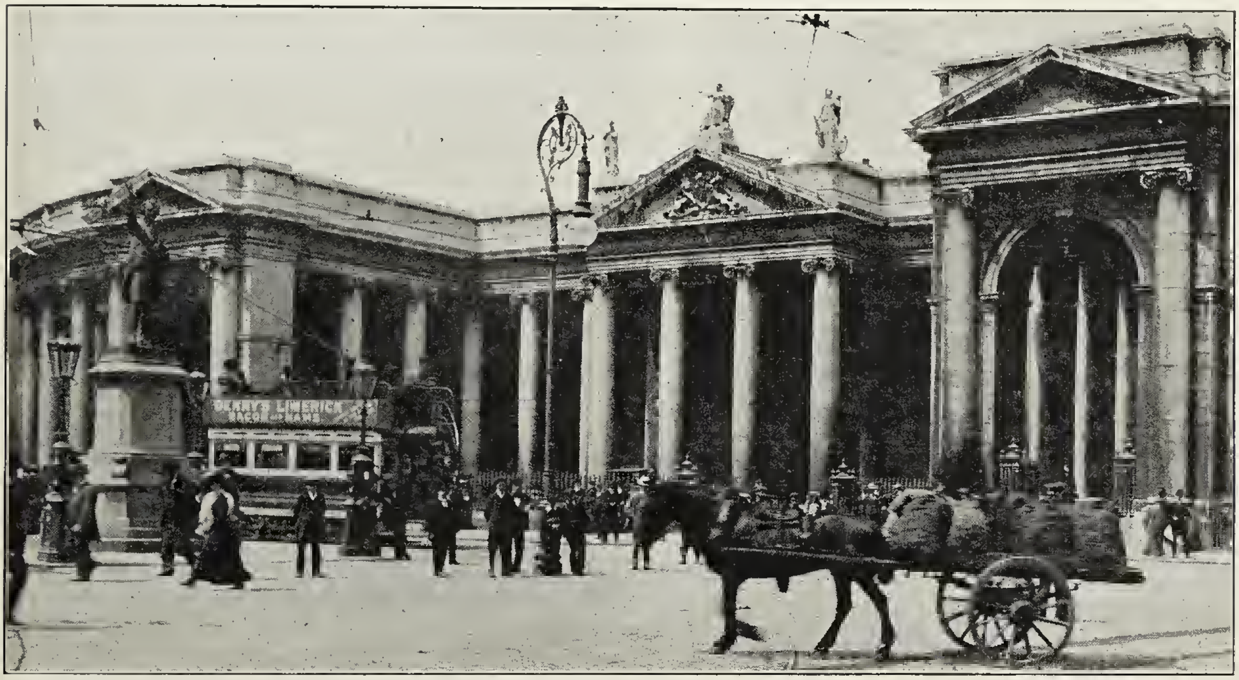
Photo, L.M.S. Rly.

View from O'Connell's Bridge, showing Dublin's chief thoroughfare as it appeared before its destruction in the rebellion



O'CONNELL STREET, DUBLIN
As it appears to-day

Photo by courtesy of "I.T.A."



DUBLIN, THE OLD BANK *Photo, L.M.S. Rly.*

and golf links; and Kildare, with its cathedral, round tower and Carmelite Abbey. For a description of all the other cities and towns of Ireland, see under the general heading, *Gazetteer of Cities and Towns of the Empire.*

BELFAST.

The capital of the State of Northern Ireland is the city of Belfast, which has a population of about 430,000, and is the chief industrial centre of the whole of Ireland. In number of population it exceeds that of the City of Dublin, the capital of the Free State, lying 101 miles to the south, although a hundred years ago the inhabitants numbered only a little over 12,000.

The position of the city, which stands about 15 miles from the open sea, on the river Lagan, at the head of Belfast Lough, which is, however, about 3 or 4 miles broad, is decidedly favourable to both manufacturing industry and maritime commerce. The traditional industry of this Ulster city is the making of linen, and not only does this industry continue, but it has been developed upon a vast scale, the average annual exports being valued at £17,000,000. Next in importance comes shipbuilding, and the largest battleships and liners find their way to the sea from the yards of Belfast, the average annual output being 260,000 tons. Rope and cable making, tobacco manufacture, and distilling, also give employment to several thousand people.

The principal shopping thoroughfares are Royal Avenue, Donegall Place, Castle Place, and High Street. Among the many fine buildings must be mentioned the City Hall, built at a cost of £300,000. It is an imposing, almost square building, with a central dome 173 feet high. The pillars and walls of the interior are of rare marble. Near by is the fine library of the Linen Hall, which includes a valuable collection of books dealing with the life and works of Robert Burns.

Standing in extensive grounds close to University Square are the Gothic buildings of Queen's University, which was established in 1849, and is one of the finest educational institutions in Ireland. Almost opposite are the Royal Botanical Gardens, which contain the most beautiful fernery in the British Isles. Among other fine structures are the Cathedral, the Methodist College, the Ulster and Orange Halls, the Belfast Royal Academy, and the Public Library, Art Gallery and Museum.

Perhaps the most unique features of Belfast are the Cave Hill (1,188 ft.), with its beautiful mountain park, which seems to overhang the city—" and silhouettes against the sky a strange likeness of Napoleon's profile "—and " The Giant's Ring," an immense earthwork rampart surrounding the remains of what was once an imposing *cromlech*. (See also *Cities and Towns, Manufacturing Industry*, and *Education*.)

CANALS.

The roads in Ireland are, on the whole, excellent, considering to what a limited extent they are required or utilised for heavy commercial motor vehicles except in the neighbourhood of the big cities. The rivers are more or less navigable, and have ports at their mouths, but the longest of all, the Shannon, is impeded by rapids. Owing to the low watersheds between several of the rivers, there are connections established between them by means of canals, and in all there are 848 miles of canals in the country, of which ninety-five miles are controlled by railways. The principal canals are: (1) The Royal Canal. This is ninety-eight miles long, and runs from Dublin, north of the Liffey, *via* Maynooth, to the Shannon, with a branch to Longford. (2) The Grand Canal. This is 166 miles long, and, starting from Dublin, south of the Liffey, runs, *via* Philipstown and Tullamore, to the Shannon, across which it passes to Ballinasloe. A branch from this connects it with Athy on the Barrow. (3) The Erne and Shannon Canal. This runs from Leitrim on the Shannon to the Upper Lake. The lakes of Ireland are fairly considerable for the size of the country, but they play practically no part in the commercial life of the people. The rectangular Lough Neagh, in

Photo, L.M.S. Rly.

THE GIANT'S CAUSEWAY COUNTY ANTRIM, STATE OF NORTHERN IRELAND

"Forty thousand crystalline columns split with remarkable regularity by the forces of nature"

Northern Ireland, which is 56 ft. deep, and has an area of 152 square miles, forms a part of the River Bann. It is the largest lake in the United Kingdom.

RAILWAYS.

The railways require a fuller notice, especially as some of them are utilised so much in connecting some of the ports of England with the ports which have a vitality of their own by reason of the traffic passing over them on its way to America. The principal lines are : (1) The Great Southern and Western. The length of this line is about 1,120 miles. The main line starts from Dublin, and as its name indicates, runs towards the south-west of the country although serving other parts of the south-west of Ireland, especially Killarney, Valencia Harbour and Kenmare. From Limerick Junction it branches in a northerly direction as far as Sligo, *via* Limerick, Tuam and Claremorris. The great importance of this railway arises from the fact that it is the chief mail route to Queenstown (Cobh), whence there is shipping communication with the most important ports of the world. (2) The Great Northern. This serves practically the whole of the north of Ireland, and its importance as a great highway is derived from the fact that it runs to Moville, already mentioned, where the late mails from England are shipped for Canada. It is the main line from Dublin to Belfast. (3) The Midland Great Western. This railway starting from Dublin serves the west of Ireland, with its main line from Dublin to Galway. (4) The Dublin and South Eastern. This railway is of small extent, and runs from Dublin to the south-eastern counties.

THE ESS-NA-CRUB (FALL) IN THE BEAUTIFUL VALE OF GLENARIFF, COUNTY ANTRIM, NORTHERN IRELAND *Photo, L.M.S. Rly.*

The communication between Great Britain and Ireland is excellent. For several years the chief route has been *via* Liverpool and Belfast (for Northern Ireland) and Liverpool and Kingstown (for the Free State). By means of the great L.M.S. system, London is placed in excellent communication with Belfast and Dublin. There are regular ser-

THE NEW GOVERNMENT BUILDING, NORTHERN IRELAND

CITY HALL, BELFAST, CAPITAL OF NORTHERN IRELAND *Photo, L.M.S. Rly.*

vices, in addition to the above, between Liverpool and the different ports of Ireland, Bristol and the south of Ireland, Fleetwood and Belfast, and Glasgow and the east coast.

AGRICULTURE.

Ireland is essentially given over to agriculture, but there are many circumstances which prevent it from being so productive in this respect as otherwise it might be. Leaving altogether out of account the political factor, which has hitherto played an important part, the position of the country has to be carefully considered. Being exposed to the prevailing winds of the Atlantic, there is an excess of rain. This, naturally, does not advance the growth of certain products, but at the same time it gives a peculiar freshness to the pasture lands, and the mildness of the climate during the winter has an important economic result, for the grass continues to grow then, so that it is suitable for cattle all the year round, while in England, especially in the eastern counties, roots for winter food are an absolute necessity.

The area under cultivation in Northern Ireland is approximately 1,000,000 acres. The production of agricultural produce averages : oats, 280,000 tons ; potatoes, 1,200,000 tons ; turnips, 860,000 tons ; hay, 1,000,000 tons ; flax 6,000 tons. The live stock includes 670,000 cattle ; 490,000 sheep ; 120,000 pigs and 112,000 horses.

In the Irish Free State the area under cultivation totals 3,800,000 acres, and the average annual production of the staple crops is as follows : oats, 640,000 tons ; potatoes, 2,000,000 tons ; turnips, 3,800,000 tons ; hay, 5,300,000 tons. The number of live stock is approximately : cattle, 4,000,000 ; sheep, 3,000,000 ; pigs, 890,000 ; horses 400,000.

Flax is extensively grown, and is required for the linen manufactures of the north. This is raised almost exclusively in the north-eastern section of Ireland, and about 40,000 acres are devoted to it. Flax is produced in hardly any other part of the British Isles. Upon this flax, produced in the neighbourhood, much of the prosperity of Belfast depends.

With such excellent pasture land it is not surprising that the raising of live stock has been for many years one of the principal, if not the principal, of Irish industries, and cattle are reared in large numbers, especially for the English market. Sheep and pigs are also very numerous. Horse-breeding is also profitably carried on, whilst dairy-farming is on the increase.

FISHING.

If the herring fishery was prosecuted off the Irish south coast with anything like the energy shown by the Scottish fishermen, it is probable that it would prove highly remunerative to those engaged in it. Unfortunately the fish could not be brought to the English markets in a fresh state, and the only method would be to set up curing establishments, where fish could be prepared for the foreign markets. Under present conditions this seems a very unlikely thing to happen, and consequently the fisheries are only utilised for the supply of local or individual needs. Again, there is no doubt that a great pilchard fishery might also be established on the south coast, if energy and capital were at hand. The most valuable yield is that of the salmon fisheries, the rivers of Ireland being well stocked. These fisheries attract a large number of visitors every year, and the money thus obtained is a very appreciable source of income to the people of the west.

MINING.

The most valuable mineral worked in Ireland is building stone of various kinds. The quarries in different parts produce a variety of beautiful limestones. There are the black marbles of Kilkenny, the red ones of Cork, the green ones of Galway, and the variegated ones of Fermanagh. The quarries of Killaloe and Valentia afford large-sized, excellent slates, and an almost inexhaustible supply of granite is found in the hills to the south of Dublin.

Coal is mined to the extent of a little over 100,000 tons per annum, the principal deposits being the anthracite near Castlecomer, on the borders of Queen's County and Kilkenny.

Iron is mined in Antrim, and, to a small extent, in Donegal. Lead, silver, copper, zinc and gold are all found in small quantities among the hills, especially those of Wicklow, but there is no regular output. Antrim has beds of rock salt in the south, and also deposits of bauxite, the only ore of aluminium to be found in the United Kingdom.

MANUFACTURES.

The chief manufactures are linens and woollens, but these are confined to the north and east. Belfast is the centre of the linen industry, and owes its importance and its very existence to the growth of flax in the immediate neighbourhood, its situation near the sea, and the quality of the water of the River Lagan for bleaching and dyeing. Belfast does, in fact, produce more linen than any other city in the world, and has to import large quantities of flax in addition to that which is grown locally. Other towns engaged in the linen trade are Londonderry, Coleraine, Carrickfergus, Lisburn, Lurgan, Portadown, Newry and Larne.

The woollen trade is carried on in several small towns, the only one of any size thus engaged being Kilkenny. The purely agricultural industries, such as ham and bacon curing, are common throughout the country, and it is not necessary to do more than refer to the minor industries, such as tobacco manufacture, flour-milling, brewing, tanning, leather manufacture, and biscuit making.

The importance of the shipbuilding of Belfast requires special notice. It is, in fact, as far as the city itself is concerned, the leading industry. Nearly 30,000 men and boys are employed by Harland and Wolff, the great firm on Queen's Island, and it is here that some of the largest ships in the world are built. The industry depends largely upon coal obtained from Scotland and Cumberland, and iron and steel from Barrow. (See *Government*, *Finance*, *Commerce*, *Manufacturing Industry*, etc.).

CABLES

SUBMARINE cables are at present the main connecting links between Great Britain and the Overseas Dominions and Colonies, although the wireless telegraph systems now give at least an alternative means of inter-communication. The total length of the cables of the world has been estimated at 360,000 miles ((approximately), and, as Great Britain was the pioneer of the submarine telegraph, it is but natural that she should own, *directly and indirectly*, the longest and most important sections of this vast submarine telegraph system. The whole world is almost encircled with British wires, the chief sections of which are the Pacific cable (State owned), and the Eastern and Associated Cables (private). The principal lines owned *entirely* by the British and Dominion Governments are as follows :—

	Miles.
Great Britain and Ireland * -	3,037
British India - - -	1,988
Pacific Cable - - -	9,279

HISTORY OF AUSTRALIAN AND EASTERN CABLES.

As far back as 1857 the question of connecting Australia with the Old World by

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* Including the cables owned jointly by British and Foreign Governments.

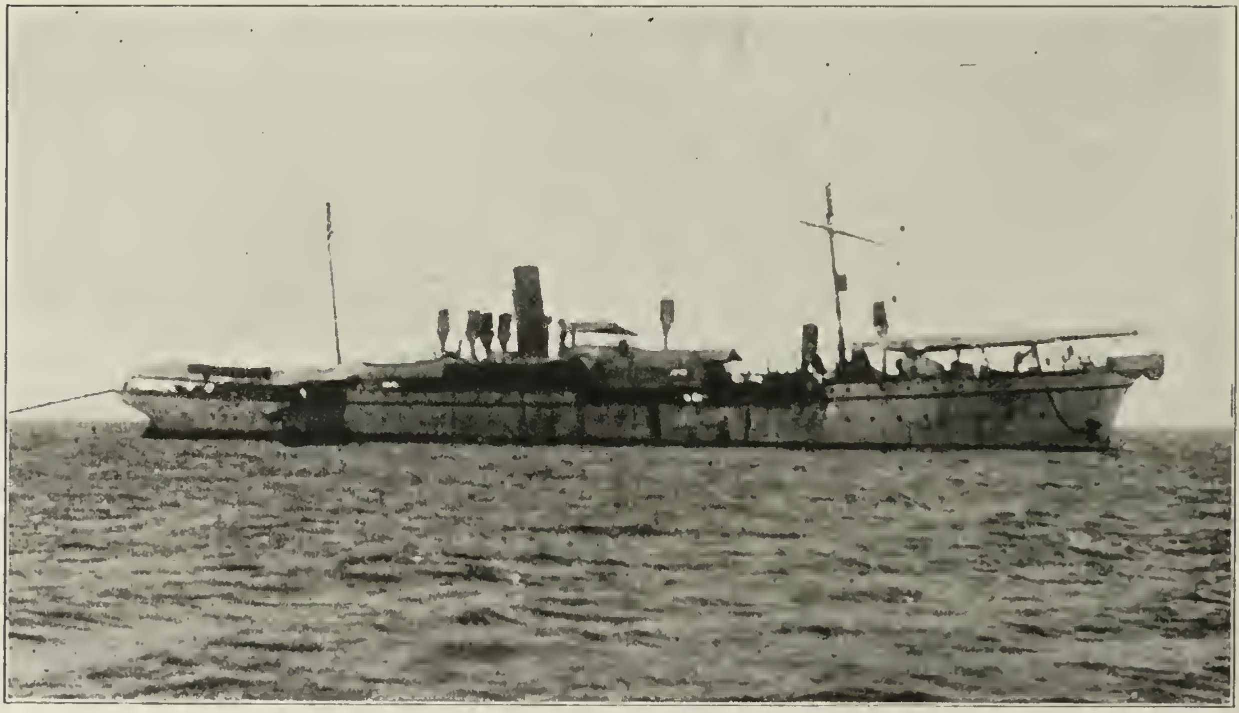
Photo, P. B. Alfieri *By kind permission of the Eastern Telegraph Co.*

SHIPPING SUBMARINE TELEGRAPH CABLE DIRECT FROM THE FACTORY

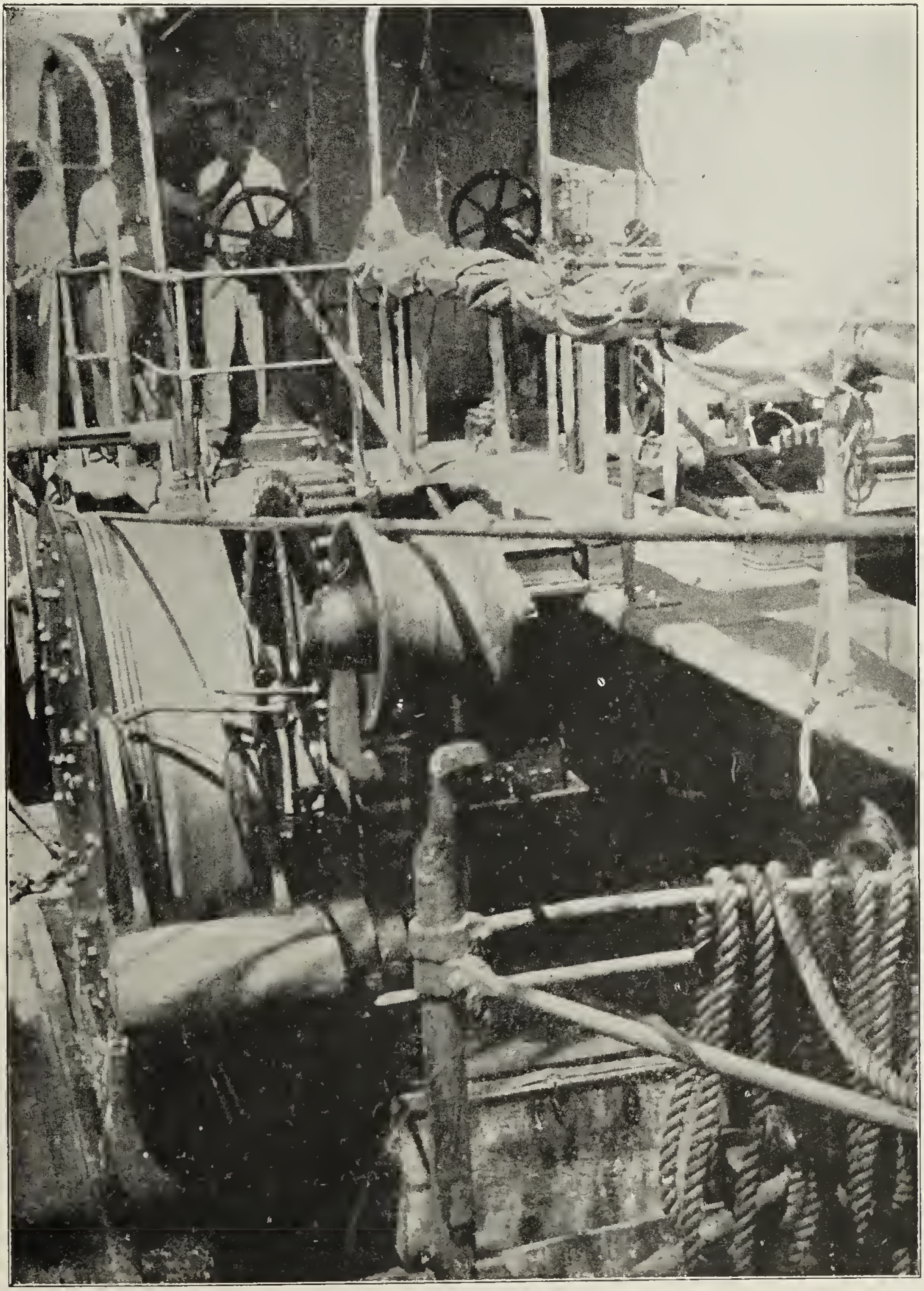
The cable passes from the factory on shore, over the floating supports, on to the cable drums in the hold of the cable-laying ship which is moored out in the river means of submarine cables was brought forward in South Australia. No steps were taken in the direction of constructing the cable until the year 1869, when various schemes were proposed. About this time, the British Australian Telegraph Company was formed for the purpose of laying a cable to Australia without subsidy or guarantee. Communication had already been provided between London and Singapore *via* Bombay and Madras, and also through Java from Batavia to Banjoewangie. The proposal of the above company was to lay cables from Singapore to Batavia, and from Banjoewangie to Port Darwin, from which place connection would be made overland with the Queensland telegraph system at Normanton. It was, however, subsequently decided that the company's line should end at Port Darwin, the South Australian Government undertaking to construct an overland line from Port Augusta to Port Darwin, a distance of 1,971 miles. In November, 1871, the submarine cable was completed, and communication was established between Port Darwin and London. On the 22nd August, 1872, the construction of the line from Port Darwin to Adelaide was accomplished at an expenditure of nearly £500,000. The cable from Port Darwin is now under the control of the Eastern Extension Telegraph Company.

In the meantime, the cable joining Tasmania to the Continent of Australia had been laid, and was open for use in 1869, the total length being 170 miles. The line was owned by the Eastern Extension Telegraph Company, and was subsidised by the Tasmanian Government until the year 1909. On the 28th February, 1908, the Postmaster-General entered into an agreement with Messrs. Siemens Brothers & Company Limited, of London, for the manufacture and laying of two submarine cables between Tasmania and Victoria. The new cables were taken over on the 24th March, 1909. Their aggregate length is, approximately, 350 nautical miles of main cables and 20 nautical miles each of intermediate and shore-end cable, making a total of 390 nautical miles.

In addition to the first Victoria-Tasmania cable and the original cable from Port Darwin referred to above, the Eastern Extension Company has constructed several other cables connecting with various places in the Commonwealth. In July, 1899, the company offered to lay a cable direct to Great Britain, *via* the Cape of Good Hope, and also offered reductions in the rates charged, if the States



PAYING OUT A CABLE AT SEA *Photo, Eastern Telegraph Co.*



MAIN GEAR ON A CABLE-LAYING SHIP *Photo, Eastern Telegraph Co.*

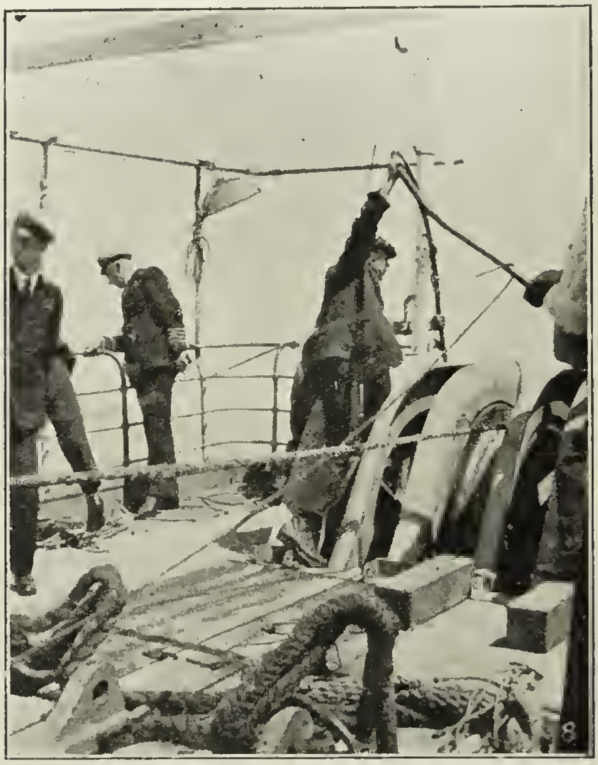
The submarine cable is being payed-out by the large drum and is passing over the stern of the ship would agree to certain conditions, giving the company the right of direct dealing with the public. The States of South Australia, Western Australia, and Tasmania accepted the terms offered, and New South Wales entered into the agreement in January, 1901. The cable was opened, *via* Fremantle and Durban, in October, 1901.

There is an alternative route, partly belonging to the Eastern Extension Company and connecting the Port Darwin-Singapore cable with London, *via* Hong-Kong and Shanghai. In 1909, a cable was laid from Java to Cocos Island, thus affording another route from Australia to South Africa; whilst in April, 1911, a radio-telegraphic station was opened at Cocos Island, thus strengthening the line of communication between Australia and the East.

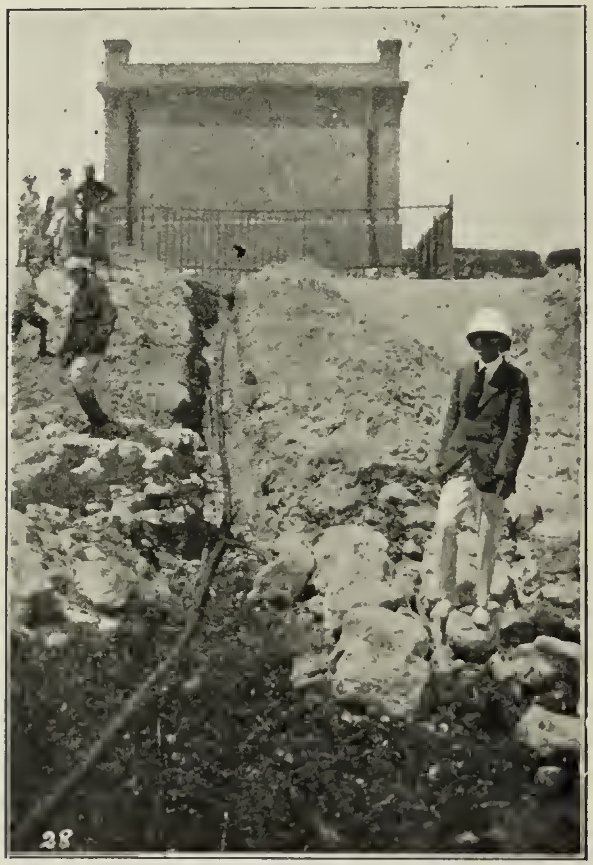
Landing the shore-end of a cable

HISTORY OF THE "ALL RED" ROUTE.

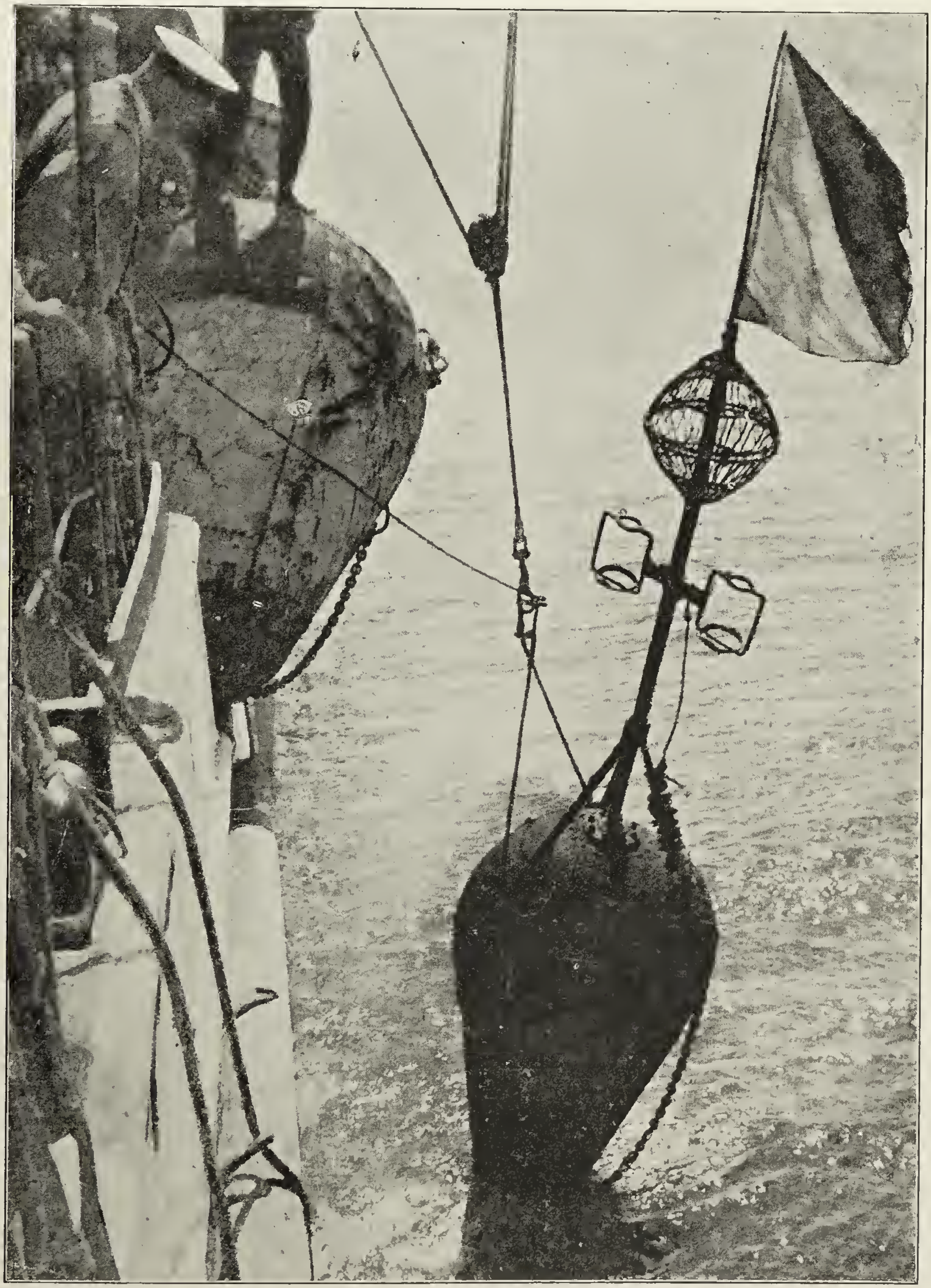
In July, 1898, a conference of representatives of Great Britain, Canada, New South Wales, Victoria, Queensland, South Australia and New Zealand was held for the purpose of considering a project for a cable to be laid across the Pacific Ocean, touching only British territory on its way from Australia to Canada, thus providing an "All Red" route, as it is termed, for a cable system between England and Australia. In the following year it was agreed at a meeting held by representatives of the countries interested that the cable should be laid and that Great



Cable passing over the stern into the sea



Photo, Eastern Telegraph Co.
The shore end laying in the trench leading to the cable station. When the laying is complete, trench is filled in



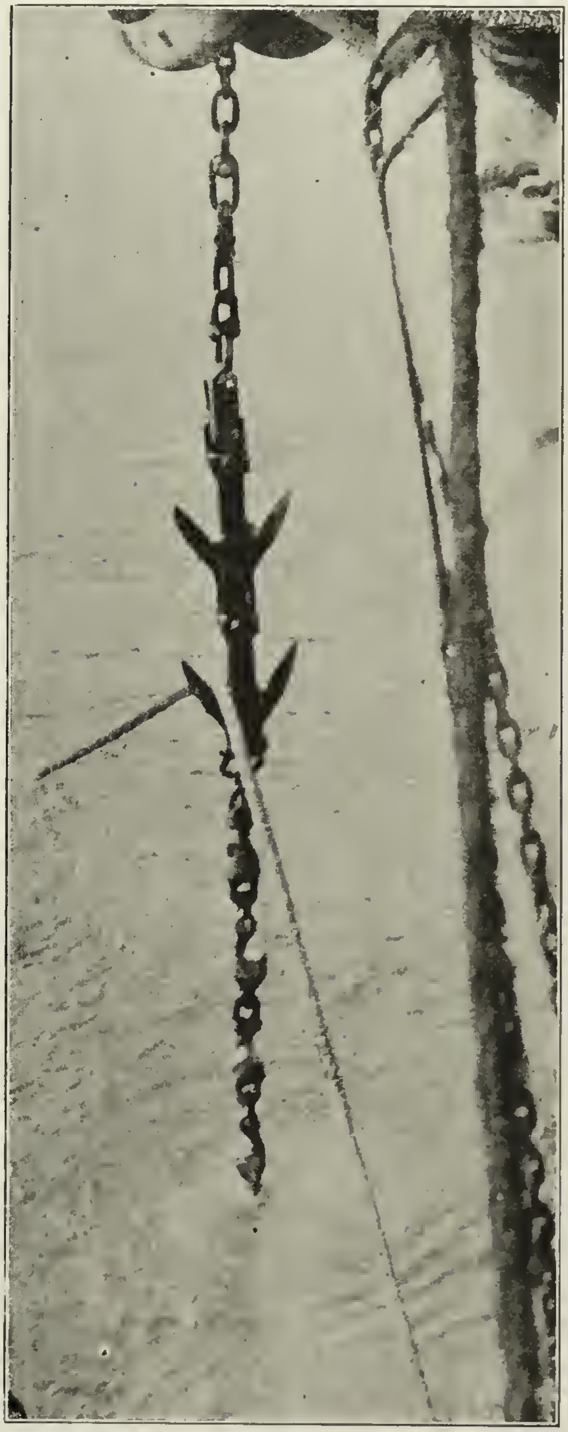
Photo, Eastern Telegraph Co.

MARKING A BREAK IN A SUBMARINE CABLE BY A CABLE-BUOY

Britain and Canada should each pay five-eighteenths of the cost, and the States of New South Wales, Victoria, Queensland, and the Dominion of New Zealand should each pay one-ninth. The construction and management of the cable were placed under the control of a Board composed of seven members—two each from Great Britain, Canada, and Australia, and one from New Zealand—called the Pacific Cable Board. The Australian shore-end of the cable was landed at Southport, Queensland, in March, 1902, and the cable was completed on the 31st October, 1902, and opened for traffic on the 7th December of the same year. There are cable stations at Norfolk Island, Fiji, and Fanning Island, and a branch cable runs from Norfolk Island to New Zealand. In 1910 the Board leased a wire from Bamfield, British Columbia, to Montreal, thus extending the Pacific Cable system from Queensland to Montreal. The traffic is then carried across the Atlantic to the United Kingdom by the cables of the Anglo-American and Commercial Companies. A second cable, connecting Australia with Canada, was laid in more recent years. The new line is capable of transmitting messages at eight times the speed of the old cable. It is about 5,520 miles in total length, and touches Fanning Island and Suava, Fiji.

HISTORY OF NEW ZEALAND CABLES.

A submarine cable joining New Zealand to the Australian Continent was laid in 1876. The line is 1,191 miles in length. The Australian shore-end of the cable is at Botany Bay, while the New Zealand terminus is at Wakapuaka, near Nelson, in the Middle Island, from which place another cable, 109 miles in length, is laid to Wanganui, in the North Island. For a period of ten years after its opening the cable was subsidised by the New South Wales and New Zealand Governments, the total contributions amounting to £10,000 a year. The branch from Norfolk Island to New Zealand of the Pacific Cable was opened on the 23rd April, 1902. The length of this cable is 597 miles, the New Zealand terminus being at Doubtless Bay in the north of the North Island. During 1911, a scheme to lay a second cable between New Zealand and Australia (Auckland to Sydney) was adopted by the various Governments concerned, and the necessary legislation was passed. The new cable, which was completed and opened for traffic on 31st December, 1912, shortens the distance between the two Dominions.



Photo, Eastern Telegraph Co.

HOOKING A CABLE

When a break is reported the cable is hooked-up from the sea-bed by grapnel and is brought inboard as the vessel steams slowly along

INTER-COLONIAL AND LOCAL.

There are a large number of short inter-colonial and local cables ; and these, in combination with the main ocean cables and extensive land-line systems (see territorial headings) now spread over *every* portion of the British, Colonial, and Indian Empires, making it possible to send telegraphic messages from almost any post office to any other place in the Empire. The addition of a complete wireless telegraphic system has given an alternative means of inter-communication between all parts of the Empire which is available not only for commercial and general messages, but also for naval, military and political purposes. There are also several cable lines taken over from Germany during the Great European War of 1914–18. These mostly connect the ex-German colonies with Europe. (See *Lands of the British Mandates, Wireless Systems, etc*).

CANADA

THE Dominion of Canada, extending westward from the Atlantic Ocean to the Pacific Ocean, and northward from the United States boundary into the Arctic Circle, embraces a total area computed at 3,684,723 square miles. This area is divided into nine Provinces, and the Yukon and North-West Territories.

The following table shows the total area of the Dominion in land and water, and the political division into provinces and territories :—

southern jagged outline borders the United States. Its population of 9,796,800 averages just over two persons to each of its 3,684,723 square miles of area. This does not preclude dense massing of its people in certain sections of the country, but vast stretches of uninhabited territory in the north equalise the population. The United States (continental) contains 658,000 square miles less than Canada, while Europe can lay claim to but few more, and it is no less than thirty-one times larger than the United Kingdom.

LAND AND WATER AREA OF CANADA BY PROVINCES AND TERRITORIES.

Provinces and Territories.	Land.	Water.	Total.
	Square Miles.	Square Miles.	Square Miles.
Prince Edward Island - - - - - -	2,184	—	2,184
Nova Scotia - - - - - - - -	20,743	685	21,428
New Brunswick - - - - - - -	27,710	275	27,985
Quebec - - - - - - - -	571,004	23,430	594,434
Ontario - - - - - - - -	357,962	49,300	407,262
Manitoba - - - - - - - -	224,777	27,055	251,832
Saskatchewan - - - - - - -	237,975	13,725	251,700
Alberta - - - - - - - -	248,800	6,485	255,285
British Columbia - - - - - - -	349,970	5,885	355,855
Yukon - - - - - - - -	205,346	1,730	207,076
North-West Territories—			
Franklin - - - - - - - -	546,532	7,500	554,032
Keewatin - - - - - - -	218,460	9,700	228,160
Mackenzie - - - - - - -	493,225	34,265	527,490
	3,504,688	180,035	3,684,723

With the exception of Alaska—the United States' rich possession in the far north-west—Denmark's icy Greenland on the extreme north-east, and on the south-east the Empire's separately governed territory of Newfoundland, which includes the Labrador coast, the Dominion of Canada comprises the entire northern part of the continent of North America. On west, north and east three great oceans—the Pacific, the Arctic, and the Atlantic—form its boundaries, while its

Canada is a land of irregular outline and enormous distances, with a mainland varying from the latitude of Spain and Italy to that of Northern Norway. From Victoria on the Pacific, to Dawson on the Yukon River, is 1,550 miles by water and rail, while from the city of Quebec to the Straits of Belle Isle on Atlantic, is 850 miles. From Halifax, on the east coat, to Vancouver, on the west, is 3,772 miles by rail, and though on both Atlantic and Pacific shores the coast line is

J. L. SMEATON
PHOTO-ENGRAVER & LITHOGRAPHER
DELFOSSE & CO

Photo, Canadian Government

OLD HOUSE IN MONTREAL, WHERE THE GOVERNORS-GENERAL OF CANADA RESIDED IN BY-GONE TIMES

THE CITADEL, QUEBEC *Photo, High Commissioner for Canada* largely cut off by restrictions of Nature's own making, there is no lack of admirable harbours on either side of the continent. From the United States boundary (the 49th parallel of latitude) to the Arctic Ocean is 1,600 miles, and the frigid region approaching the North Pole is a perfect network of islands, peninsulas, inlets, channels, straits, sounds, and gulfs. Nature and man have conspired to make Northern Canada a land most difficult to survey. Canada is computed to have a greater length of coast line than Great Britain and Germany combined, and some 3,000 miles of navigable lakes and rivers.

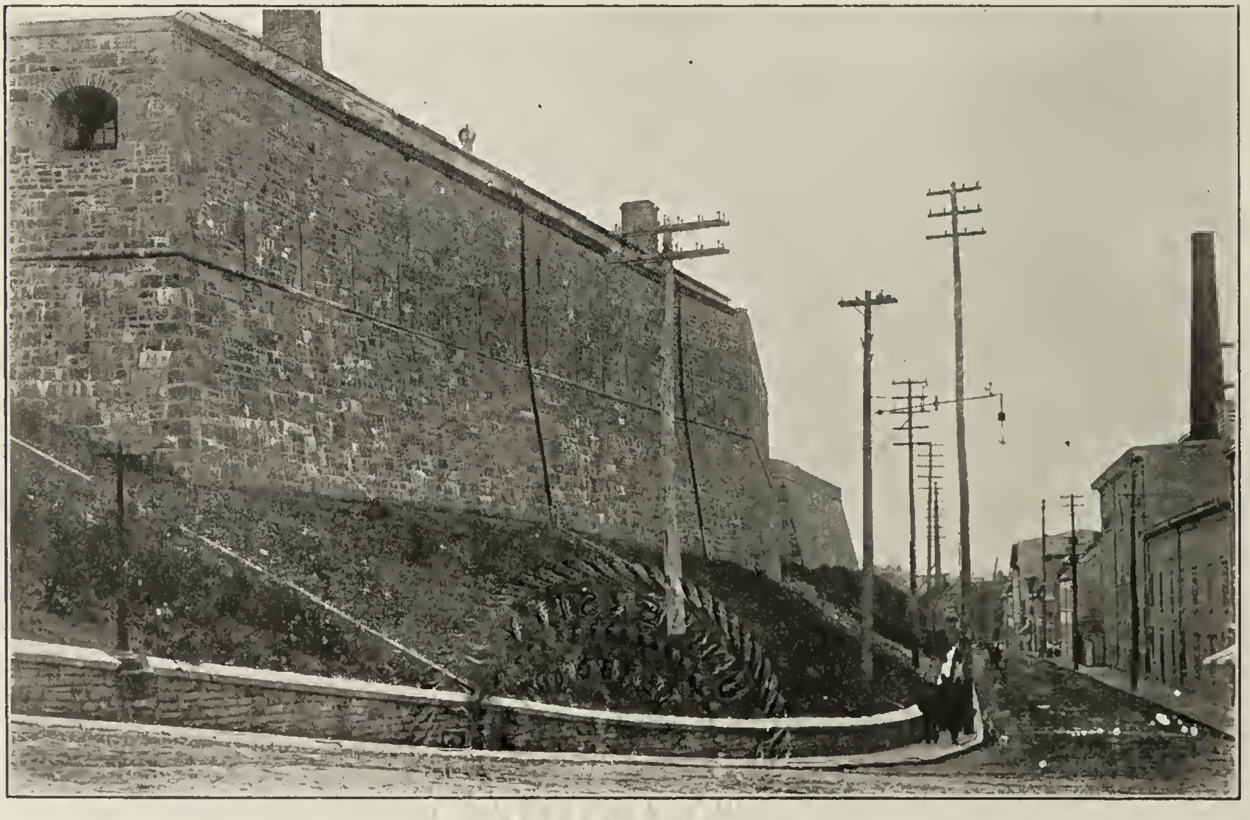
HISTORY.

It is generally believed that Columbus was the first European to set foot in the New World ; such, however, has recently been proved not to have been the case. The discovery on the coast of New England of conclusive evidences of a Norse settlement seems to substantiate the claim of Norwegians that Seif Ericson and an adventurous band of Norsemen landed on the American coast during the eleventh century. It was, however, the re-discovery by Christopher Columbus in the year 1492 which commenced the period of exploration, war, settlement and exploitation resulting in the formation of the Great States of the New World nearly four and a half centuries later.

The emissaries of Spain were early at work annexing the territories of the south, followed quickly by the Jesuit Fathers, who commenced the gigantic task of pacification and colonisation in the vast areas which now compose the rapidly growing nations of South America. French explorers went to the north of the Continent, and settled mainly around Quebec ; and Englishmen to the Atlantic coast of what now forms the United States.

THE BEGINNING OF CANADA.

The first English navigator to land in the New World was John Cabot, who sailed from Bristol and reached Cape Breton, Nova Scotia, in the year 1497—five years after the famous voyage of Christopher Columbus. It was



Photo, Canadian Government

PART OF THE OLD WALL OF THE CITY OF QUEBEC generally supposed at this time that the land discovered was only a group of islands on the route to China and the Indies, and no settlers went to Nova Scotia until 107 years later (1604), although French explorers actually took possession of the country in 1534. The first colonists in this portion of Canada, as in most other parts, were Frenchmen ; but the land was claimed by the Kings of both England and France. At this time, Nova Scotia was called L'Acadie, and many fierce encounters took place some years later between the French settlers in the north and the English in the south.

On the 3rd July, 1608, the French explorer, Samuel de Champlain, landed from his little ship, *The Gift of God*, under the shadow of the great rock on which the citadel of Quebec now stands, after having sailed up the mighty St. Lawrence River that Cartier had discovered seventy-four years earlier. Champlain laid the foundations of Quebec and opened the history of Canada as a white man's land.

Champlain had great ideas ; but the colony that he founded was still no more than a little hamlet when, in 1629, its garrison of ten men surrendered to an English fleet. The English King, having no notion of the value of his conquest, returned Quebec to the Crown of France, and for 130 years more the French shared Canada with the aboriginal Indians. With some of the tribesmen, the Hurons and the Algonquins, Champlain made friends ; but by doing so he made enemies of the more powerful Iroquois, who raided the colony unmercifully and wrote its history in letters of blood by the light of torture fires.

THE FIRST SETTLERS.

Of the earliest colonists, many were simple farmers, who painfully cleared fields for themselves out of the forest then covering the whole St. Lawrence valley. The rest of the new-comers were chiefly traders, tempted across the Atlantic by the high profits to be made in the one and only form of commerce for which Canada was supposed to give opportunity—the fur trade. In 1642, however, a second town was founded about 200 miles further up the river than Quebec, not as a seat of commerce but as an outpost of

THE CITY HALL, QUEBEC *Photo, High Commissioner for Canada* religion—though this little town, called by its founders Ville Marie, has since become the commercial metropolis of the Dominion, the city of Montreal. The missionaries who went out to Christianise the degraded Hurons and savage Iroquois, the soldiers who came over from France to defend their fellow-countrymen, and the explorers who penetrated the west, and even sailed down the Mississippi to the Gulf of Mexico—yes, and the farmers going to till their fields with a musket slung over the shoulder—all took their lives in their hands and did heroic deeds, of which the British Empire and their French motherland alike are proud.

ENGLAND AND FRANCE IN NORTH AMERICA.

For nearly three centuries France and England struggled for possession of this portion of the continent. Wars took place in 1689–97, 1692–1713, 1741–48, and in 1754–60.

" It was not till 1713, in the reign of Queen Anne, that the mainland part of Nova Scotia became finally British, and the first British settlers began to arrive. Even then the troubles of the country were not over. We have all been moved by Longfellow's pathetic story of Evangeline ; and the real story was sad enough—for the French folk living on the shores of the Bay of Fundy, stirred up by their military kinsmen who still held the island of Cape Breton, encouraged the wild Indians to raid the British settlements ; and the British authorities could think of no less drastic way of protecting their people than by forcibly removing the French population and scattering them among the British colonies further south. When these colonists themselves threw off allegiance to King George, the loyalists among them, refusing to live under the Republican flag of the new United States, fled northward, thousands of them making their new homes in Nova Scotia.

" By this time, the whole of the Province now called by that name was British ; for General Wolfe and his comrades, before sailing up the St. Lawrence to take Quebec, laid siege to the powerful French fortress of Louisbourg, and, with its capture, became masters of the whole island, Cape Breton, on which it stood."

Quebec, which was then the capital of New France, fell to the British forces under General Wolfe in 1759. By the Treaty of Utrecht, Nova Scotia, which included the present provinces of New Brunswick and Prince Edward Island, was ceded to Great Britain ; and in 1763, by the Treaty of

Photo, High Commissioner for Canada

STRATHCONA MONUMENT, MONTREAL

RIDERS OF THE PLAINS *Photo, High Commissioner for Canada*

A Post of the Royal Canadian Mounted Police. The native trackers will be seen in the foreground

Paris, England established her Canadian dominions.

" The French Canadians, like their fellow-countrymen at home, had been strictly deprived of political rights. They had been ruled by officials, and by seigneurs among whom their King had divided the land in Canada in his attempt to graft the feudal system on the New World. The people were not very much concerned, therefore, when one set of officials was replaced by another ; especially as the British Government wisely guaranteed them the free exercise of their religious and other customs. When the British colonists, further south, themselves rose in rebellion against King George, the French Canadians refused to join them, and helped the British troops to repel the American invasion in 1775. Again, during the war of 1812, the American army overrunning the St. Lawrence valley, was driven back by the united force of British soldiers and French Canadians "—and the part so gallantly played by the modern representatives of the original French settlers in the great European War of 1914–18 is too recent an event to need comment here.

Some few years after the establishment of her sovereignty in Canada, Great Britain lost her more southern possessions on the American Atlantic seaboard, the rebellion of the colonists against King George in 1775–83 terminating in the separation of the New England colonies, and eventually, the formation of the United States of America.

UNITED EMPIRE LOYALISTS.

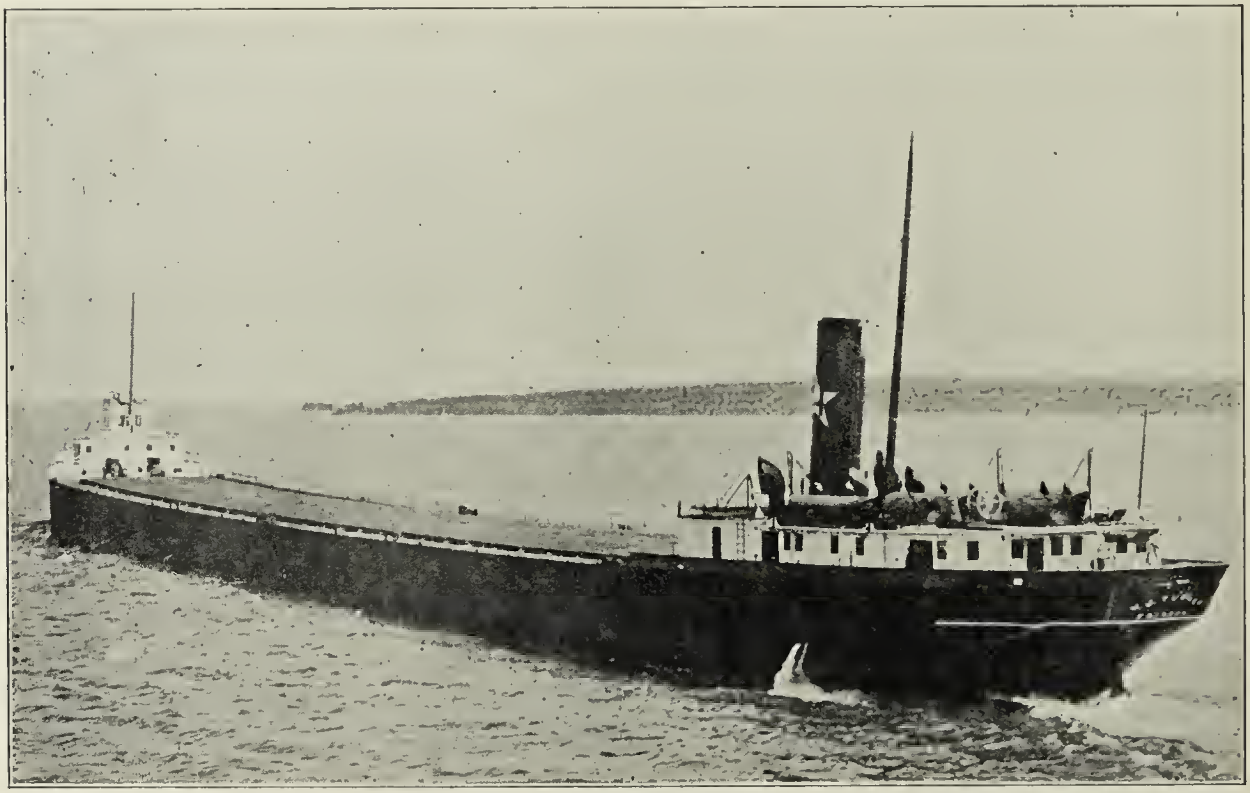
The solid and lasting foundation of New Brunswick, Nova Scotia, Prince Edward Island and Ontario, was laid by men of British stock, the same exiled loyal race whose coming we have heard of in the maritime provinces. " These people, who neither could nor would live under an alien flag, were followed by a crowd of folk who abandoned the new Republic after a little experience of it. Then, before many years had passed, a great wave of emigration swept over the Atlantic ; and though many settled at the very gates of Canada, in the maritime Provinces, thousands more flowed up the St. Lawrence, and even the lakes, thence striking north into the woods and settling down irrevocably as the ancestors of a Canadian race.

" The end of our wars with Napoleon, sending into civil life a multitude of soldiers who had no trade beyond that of arms ; the eviction or voluntary departure of Scottish Highlanders from their poor but loved hillsides ; the depression of trade, with ruin falling on gentle and simple alike ; these were among the winds, not all of them ill winds, that filled the sails of the emigrant ships. To Canada these varying influences, good and bad, worked unmixed good ; and the emigrants themselves before long allowed that their troubles had been blessings in disguise. Most of the Nova Scotians, and many of the inhabitants of the other Provinces, can trace their ancestry back to the United Empire Loyalists, who came from the revolted States, and suffered so much hardship for the sake of the Flag."

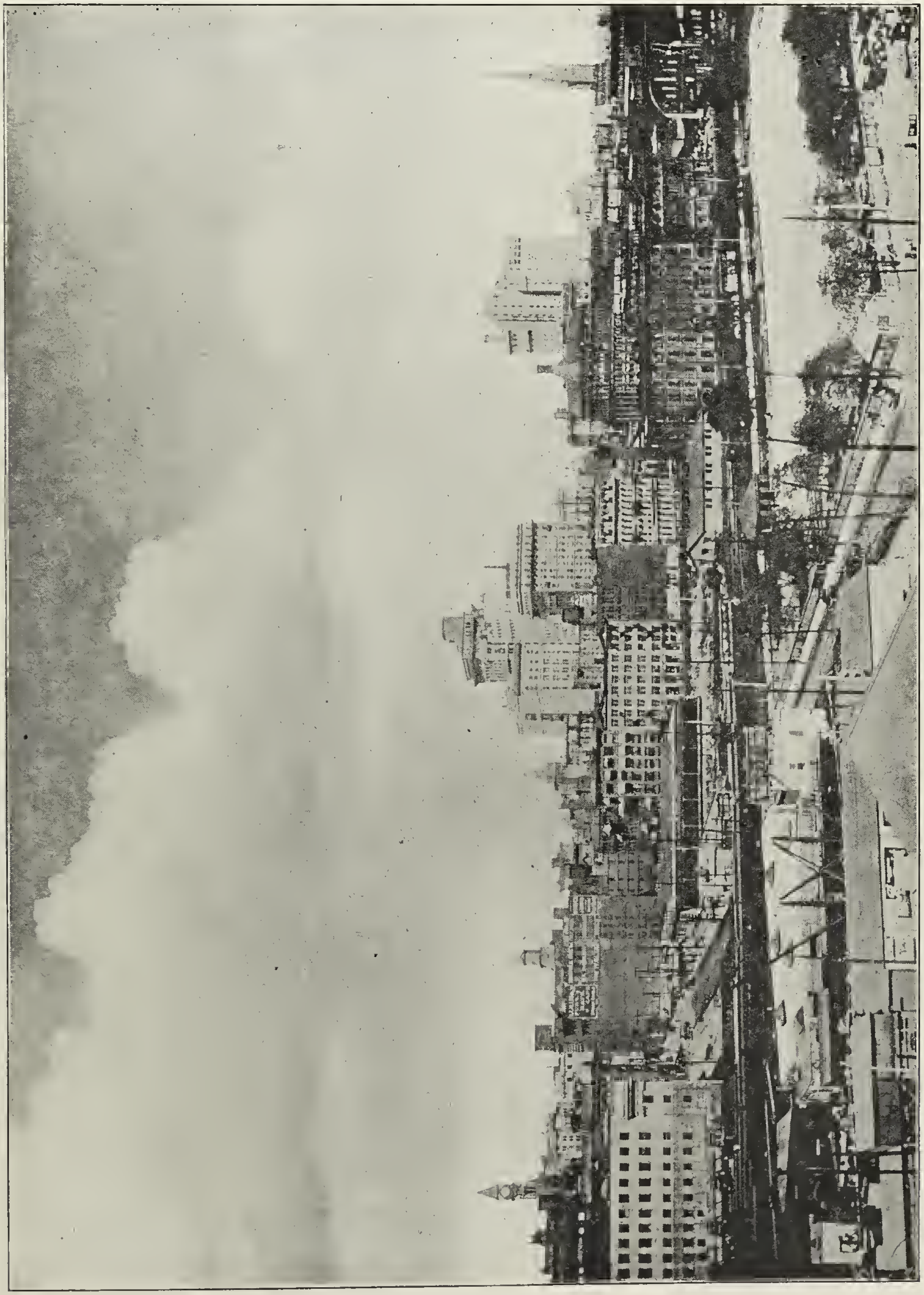
EXTENSION INLAND.

After the change in Quebec and the settlement of the maritime Provinces, Ontario began to feel the influx of settlers. Previously however, " bold runners of the woods, snapping their fingers at the King in Paris and his Governors in Canada, penetrated the forest wilderness far up the St. Lawrence and Ottawa valleys, while the colony was still very young, trading with the Indians for the skins of the beaver and other fur-bearing creatures—though this trade had been conferred on monopolists, and ferocious punishment fell on infringers of the monopoly when they could be caught. Brave missionaries, too, pressed up to the very shores of far Lake Huron in the west, resolved to convert the friendly but barbarous Huron Indians ; which they had only done imperfectly when the Hurons' hereditary foe, the implacable Iroquois, stole down upon them and swept off white and red men alike to a cruel death."

" The great explorers and empire-builders —Champlain, founder of Canada ; Joliet,



GRAIN STEAMER ON THE CANADIAN LAKES *Photo, C.P. Rly.*



Photo, C.N. Rly.

GENERAL VIEW OF TORONTO
One of the largest cities in Canada

discoverer of the Mississippi ; La Salle, who navigated that wonderful river to its mouth in the Gulf of Mexico ; these were they who also helped to let in the light upon the darkness of untracked Ontario."

THE HUDSON BAY COMPANY.

When James the First was King, Henry Hudson sailed across the Atlantic, rounded the northern coast of Labrador, and found his way down into the great land-locked sea which now conceals his bones and bears his name. Sixty years later an English company, with Prince Rupert at its head, obtained from Charles the Second, a territorial grant of the whole country round Hudson Bay at an annual rental of " two elks and two black beavers," which was not an exorbitant rent for 2,500,000 square miles of territory. The company first planted forts only on the shores of the Bay, where they bartered English manufactures for the furs brought down by Indians. Presently, however, under stress of competition, the company's traders moved inland and built stockaded forts at many points along the great rivers which formed the highways of the west. The company's chief post was Fort Garry, some miles south of the great Lake Winnipeg.

A few settlers were brought in by one of the company's leaders, Lord Selkirk, in 1811, but otherwise the country was left to the Indians, the fur traders, and the wild animals who furnished the profits of both. The Federal Government of Canada, however, had scarcely come into existence, when it bought out the company's monopoly, and added the " North-west " to the Dominion. Settlers began to come in, and in 1870 the Red River district was organised into a province, with Fort Garry, now Winnipeg, as its capital.

RED RIVER REBELLION.

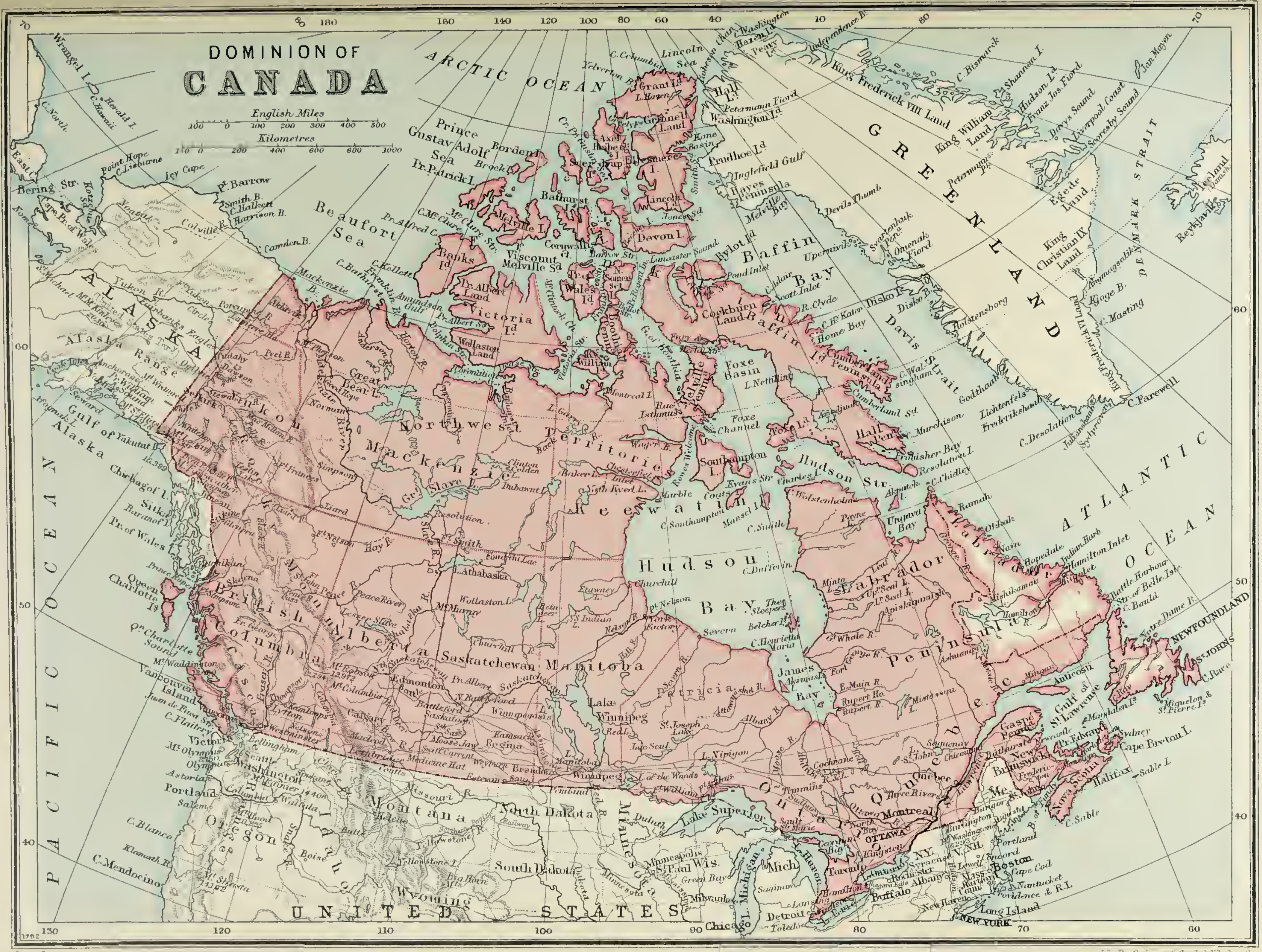
The transference of the country to the new Government was not accomplished without trouble. The little community of half-breeds, descendants of French fur traders and their Indian wives, disturbed by the appearance of Federal surveyors drawing their mysterious chains across the land, rose in rebellion ; but on the approach of Colonel Wolseley with a British Force from the east, the rising suppressed itself. Manitoba was now fairly launched on a history of almost prosaic prosperity.

SASKATCHEWAN AND ALBERTA.

Until 1905, the huge area lying between Manitoba and the Rocky Mountains was simply known as the North-West Territories ; and though there was a little legislative body, its powers were limited, and the Federal Government at Ottawa controlled the situation. When Manitoba was formed, scarcely anyone lived on the prairie further west, except wild Indians, wild animals, and a scattering of traders, hunters, half-breeds, missionaries and Mounted Police. The territories were thought of little value, except by the few who had been in there and knew better ; but knowledge spread, and settlers began to come in. The arrival of these white men, and of the officers surveying the land for homesteads, alarmed the little half-breed community living near the junction of the North and South Saskatchewan Rivers. The early trouble of Manitoba was repeated ; and the disturbance was far worse.

Louis Riel, the leader of the Red River Rebellion, came back from exile in the United States in 1884 ; and early in the following year, the French half-breeds, failing to obtain attention or satisfaction for their grievances and fears, took up arms. Riel proclaimed himself President of a Saskatchewan Republic. He even adopted the name of " David," and declared that he was a Messiah sent to drive out the white man and restore the whole land to the red man. A little force of Mounted Police and volunteers from the village of Prince Albert, sallying out to recover stores which the rebels had captured, was caught and defeated.

Two hundred miles further west, a particularly wild band of Cree Indians swooped down upon the infant settlement of Frog Lake, took the people captive, and killed nearly all of them. Most of the tribes resisted all temptation to rise, but enough of them went on the war-path to throw the Territory into confusion. The village of Battleford, where all the settlers for many miles round had taken refuge, was closely besieged. The Dominion had no regular army, but regiments of volunteers were sent from Eastern Canada and Manitoba, and after several tough fights the rebellion was put down. It was only an incident, though an unpleasant one, in the development of the country. The inflow of white population since then has been so large that the whites


DOMINION OF
CANADA
English Miles
Kilometres
ARCTIC OCEAN
ATLANTIC OCEAN
PACIFIC OCEAN
GREENLAND
ALASKA
UNITED STATES
Beaufort Sea
Baffin Bay
Davis Strait
Hudson Bay
Hudson Str.
James Bay
Foxe Basin
Baffin Id
Victoria Id
Banks Id
Ellesmere I.
Devon I.
Melville I.
Southampton I.
Northwest Territories
Mackenzie
Keewatin
Yukon
British Columbia
Alberta
Saskatchewan
Manitoba
Ontario
Quebec
Patricia
Labrador Peninsula
New Brunswick
Nova Scotia
Pr. Edward I.
NEWFOUNDLAND
Cape Breton I.
Gulf of St. Lawrence
Great Bear L.
Gt. Slave L.
L. Athabaska
Lake Winnipeg
Lake Superior
L. Huron
L. Michigan
L. Erie
OTTAWA
Montreal
Quebec
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Regina
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Vancouver Island
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now form an enormous majority of the population, and trouble of that kind would now be impossible.

The Indians are just holding their own; and they are becoming civilised. The Indian population of Canada numbers about 121,000, with 4,180 Eskimos in the far north. The men who laid siege to Battleford are now raising large crops of wheat on their reserves, as well as gathering the prairie hay for their white neighbours. Their children are going to school; crime is very rare among them, the law forbidding any man to supply them with liquor; and in course of time, if they can be protected from consumption and other diseases, they are likely to form a very valuable section of the community.

By the year 1905, so many settlers had made their homes on the prairie, that the Dominion Government thought it was time to organise that country into two Provinces. Accordingly, Saskatchewan and Alberta were brought into existence.

IN THE BEAUTIFUL LAURENTIAN MOUNTAINS *Photo, C.P. Rly.*

ESTABLISHMENT OF THE DOMINION.

Reverting back to the Eastern Provinces, and to the period before federation, we find a series of separate countries. "It is true they owed allegiance to the same monarch, but that was all. They acknowledged no allegiance to each other. Each did what it thought best in its own interest, regardless of the interests of the others; even levying customs duties on what the other sent in.

"At the extreme east, looking out on the Atlantic and the Gulf of St. Lawrence, there were three of these countries, called Nova Scotia, New Brunswick, and Prince Edward Island. Then came two others, bearing the name Canada—this being an Indian title originally applied to the region in the St.

Lawrence valley where the first French settlers made their home. These two countries, known as Upper Canada and Lower Canada, and united for a time under a single Parliament, are now the Provinces of Ontario and Quebec. The vast unsettled territory beyond the borders of the two Canadas—stretching northwards and westwards to the Arctic Ocean and the Rocky Mountains—belonged to the Hudson Bay Company ; few white folk ever set foot in its forests or on its prairies with the exception of the Company's men, who traded with the Indians for furs. Far away in the west, from the Rocky Mountains down to the Pacific Ocean, lay another country, called British Columbia, so completely cut off from Canada that the few people who wanted to go there from England seventy years ago sailed round Cape Horn, and then up the whole west coast of South and North America.

" Just as the seven kingdoms lying to the south of Scotland united long ago to form the Kingdom of England, so the countries just described came together in 1867 to form the Dominion of Canada.

By the beginning of Queen Victoria's reign, the French Canadians in Lower Canada as well as the men of British blood who had settled further west in Upper Canada, had acquired a healthy taste for self-government, and armed revolts occurred in both Provinces. The risings were suppressed, but a Parliament was set up in Montreal in 1840, and Ministers of the Crown were appointed who were responsible to the people's representatives. Among other achievements, this Parliament abolished the feudal system, voting £500,000 to the seigneurs as compensation.

" For twenty-seven years the two Provinces of Upper and Lower Canada made shift with one Parliament ; but as the English - speaking population of Upper Canada grew till it outnumbered the Lower Canadians, the experiment of legislative union was found to work badly. In 1867, accordingly, a new system was adopted by which Upper and Lower Canada, henceforth to be known as Ontario and Quebec, each obtained a separate legislature, while the Federal Parliament was set up to deal with affairs common to these two Provinces, and also to Nova Scotia and New Brunswick, which came in at the same time to form the Dominion of Canada."

BRITISH COLUMBIA.

The Pacific coast of Canada, known as the Colony of British Columbia, did not immediately enter the Canadian Confederation, but waited until 1871. " For generations after white men had settled on the eastern shores of the Dominion, they had not the remotest idea of what the western shore was like, or even where it was to be found. For many years even after Captain Cook and others had mapped the coast line, the land remained uninhabited, except by the Indians. From 1819 till as late as 1846, the whole Pacific coast between California and Alaska was a sort of No-man's Land, or, at any rate, a Two-men's Land—a sort of neutral territory controlled jointly by the British and American Governments. At last, in 1846, the two Powers agreed to divide the territory between them by a line ruled straight across the map along the 49th parallel of latitude from the Great Lakes to the Pacific Ocean. The British Government, however, did not at first take control of its share. The Hudson Bay Company, after ruling the vast territory east of the mountains from the days of Charles II, obtained from George the Fourth's Government an extension of its authority over the whole territory from the watershed down to the Pacific coast."

In 1858, however, the discovery of gold brought in a sudden flood of population ; 33,000 men came up from the Californian mining camps in one summer, and plunged into the valley of the Fraser River and its tributaries, in a feverish hunt for the treacherous metal. Most of them went away as suddenly as they had come ; for the £100,000 worth of gold they had found was not worth the cost of getting it. But it was now clearly and urgently necessary to provide the country with a regular Government. Accordingly, the new colony of " British Columbia " was formed, and the Company's chief representative became a Royal Governor.

The early history of the Colony was almost wholly one of gold mining. A great find in the mountainous Cariboo district brought the gold hunters rushing in again, not only from California, but from Australia and many other parts of the world. In one old river-bed, nuggets were picked up at the rate of £200 per square foot, and in seven years this Cariboo district, about fifty miles square, yielded gold worth £5,000,000. The lawless-ness to which the miners had been accustomed further south was sternly repressed by the force of British law and order ; and Mr. H. H. Bancroft, the American historian, declares that " never in the pacification and settlement of any section of America have there been so few disturbances, so few crimes against life and property."

Unlike the older Provinces, British Columbia was still in political leading-strings when the Canadian Confederation was formed, and the first completely elected Provincial Legislature, with a Ministry responsible to it, only came into existence when, in 1871, the Province also became part of the Dominion, with representation in the Senate and House of Commons at Ottawa.

One of the conditions on which the Province agreed to link itself with Eastern Canada was that a railway should be built, making the link a tangible reality. It was in the carrying out of this agreement that the Canadian Pacific was constructed.

In 1873, Prince Edward Island joined the Dominion ; and in 1880 all British possessions in North America, except Newfoundland and its dependencies, were, by Imperial Order, annexed to Canada. In this way the Dominion was extended northwards into the Arctic regions.

The negotiations for the inclusion of Newfoundland in the Canadian Confederation finally broke down in 1895 ; and this, the oldest British colony, is now a separate and self-governing Dominion.

By decision of the Privy Council in 1927, that portion of Labrador claimed both by Canada and Newfoundland, an area of about 100,000 square miles, was given to the latter Dominion.

In the year 1912 the boundaries of Manitoba, Ontario and Quebec were extended northward to Hudson Strait, Hudson Bay, and the 60th parallel of north latitude. The islands of the Arctic Ocean, together with the mainland territory north of the 60th parallel, have, for the purposes of administration, been formed into the territories of the Yukon and the North-West Territories (Mackenzie, Keewatin, and Franklin).

(For the detailed history of *each* of the Canadian Provinces, see later articles in the Canadian section.)

Photo, Canadian National Rlys

PRINCE RUPERT, BRITISH COLUMBIA, CANADA

IMMIGRATION.

Emigration to Canada goes far back into what may almost be referred to as ancient history. For practical purposes it will suffice to take the year 1900–1 for a starting point. That year saw a total immigration into the Dominion of 49,149, of whom 2,144 went to the Maritime Provinces, 10,216 to Quebec, 11,254 to Manitoba ; Saskatchewan and Alberta absorbed between them 14,160 ; British Columbia secured 2,600 ; while the destination of 2,567 was not shown. In the following year the total rose to 67,379, a figure which was nearly doubled in the succeeding twelve months when the record was 128,364. The aggregate steadily rose till the year 1907–8, when the figure recorded was 262,469. A decline occurred in the two subsequent years owing to the financial stress on the American Continent and elsewhere ;

but in 1910–11 the total jumped up to 311,084. The following year disclosed an aggregate of 354,237 ; 1912–13 added 402,432 new settlers to the Dominion, and high-water mark was reached in the year 1913–14, when the figure recorded was 418,909. Then followed a drop in the figures almost as remarkable as the increase already quoted. Canada had been enjoying a period of unprecedented prosperity. Those who had settled there had scattered broadcast the story of their achievements, and had encouraged relatives and friends to follow them to the Land of Promise on the other side of the Atlantic.

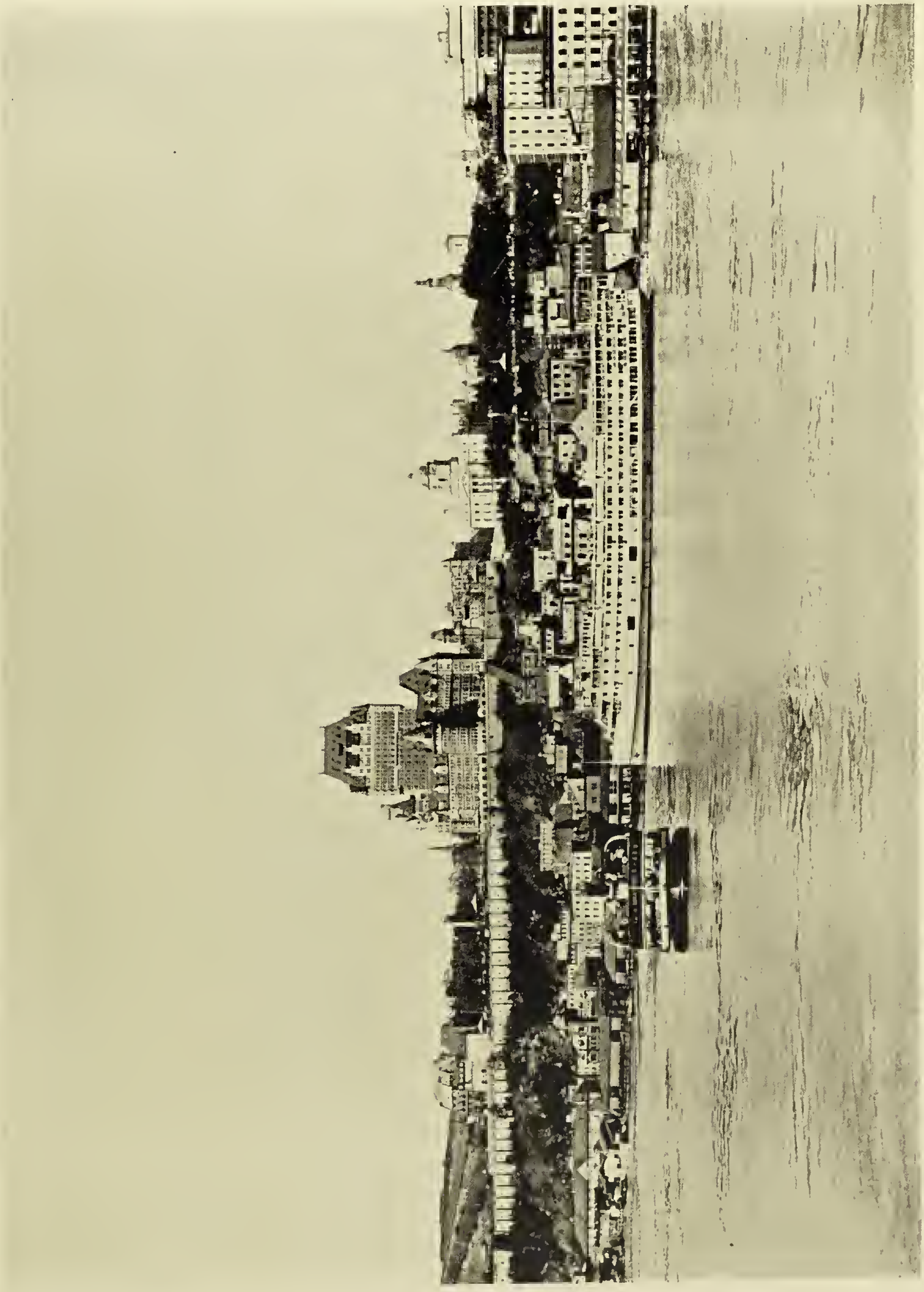
Photo, High Commissioner for Canada

GRAND MANAN ISLAND, NEW BRUNSWICK

Bold rocky cliffs form much of the coast-line of Eastern Canada

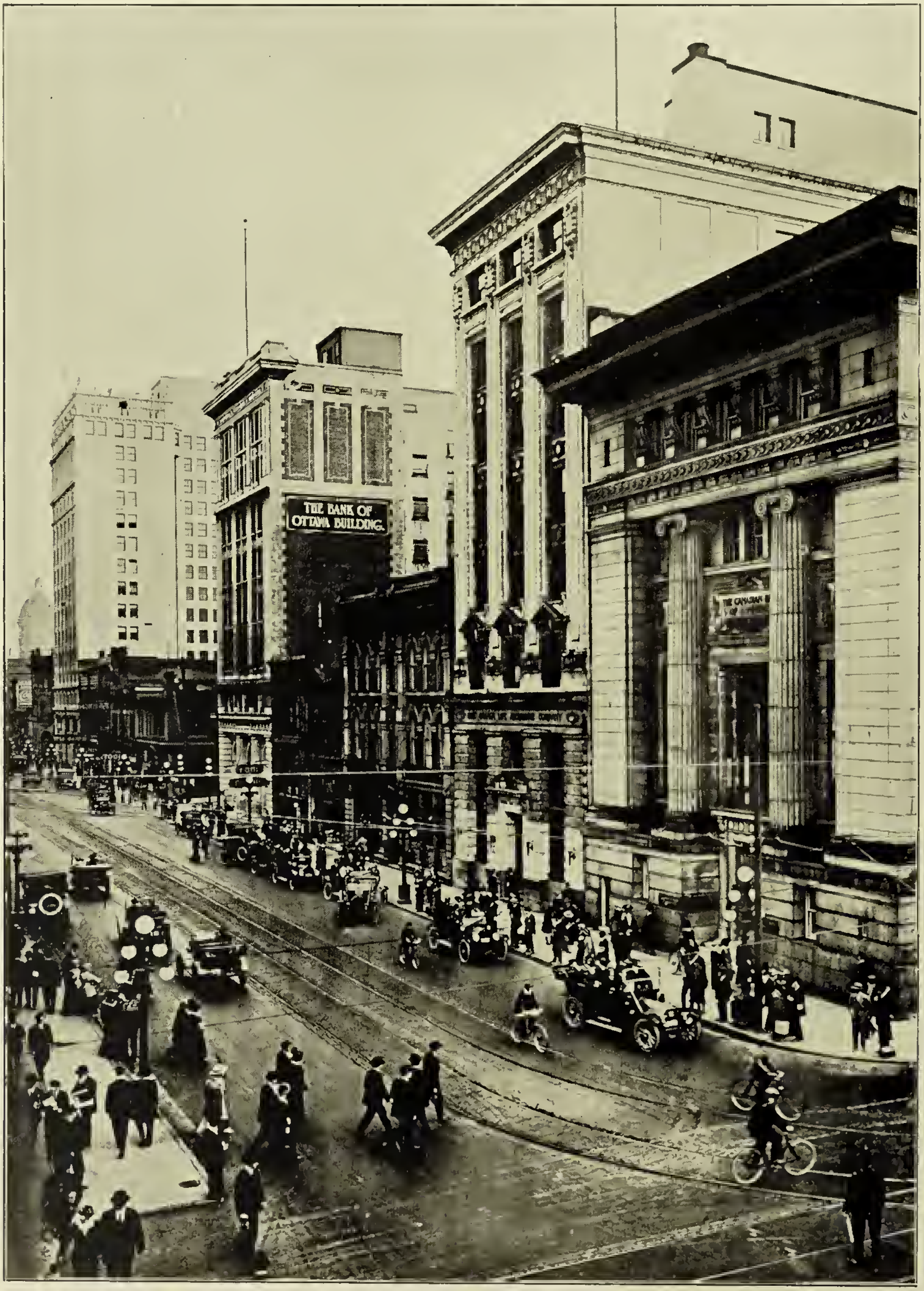
Again a period of financial stringency appeared, which made its presence severely felt all over the world. Canada, as a new country, developing its enormous wealth, building railways, docks, towns and factories, to a great extent on borrowed money, inevitably suffered. Some unemployment occurred in certain parts of the Dominion, principally in the West, and exaggerated reports of this reaching Europe caused emigration—naturally and advisedly for Canada's sake—to decrease. The effect of this monetary stringency on the industrial situation had been foreseen by the Dominion Government authorities early in the year, and "advices to wait" had been issued to all classes of prospective emigrants except agricultural workers and domestic servants. These were advised first of all as to scarcity of industrial employment, and, after midsummer was past, were finally discouraged from crossing the Atlantic for the season. At the same time it was pointed out that there was no diminution in the demand for owners and workers on the land and for female domestic servants. During the height of the busy season on the farms it was stated that work could there be found for every man willing to take it.

Canada did not suffer alone in this respect ; other overseas dominions and colonies experienced a similar, or greater falling off in the number of new arrivals on their shores. Nor was the diminution confined to emigrants



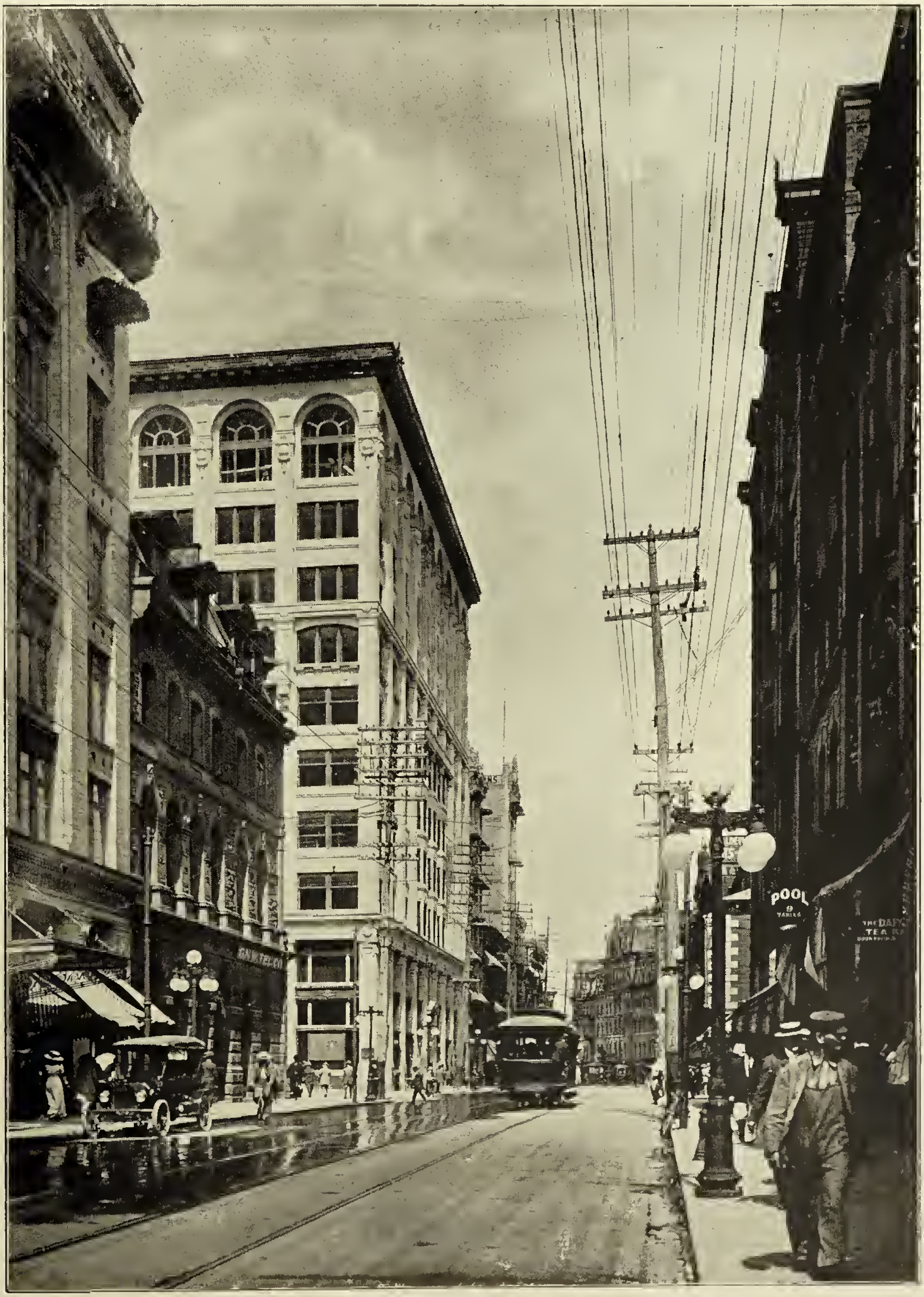
THE ROMANTIC CITY OF QUEBEC FROM THE ST. LAWRENCE RIVER, SHOWING THE CHATEAU FRONTENAC IN THE CENTRE

Photo, C.P. Rly.


THE BANK OF OTTAWA BUILDING.

HASTINGS STREET, VANCOUVER *Photo, C.P. Rly.*

This fine city is situated on the mainland of the Pacific coast of British Columbia. It is the commercial metropolis of the Province, and has a population of 117,000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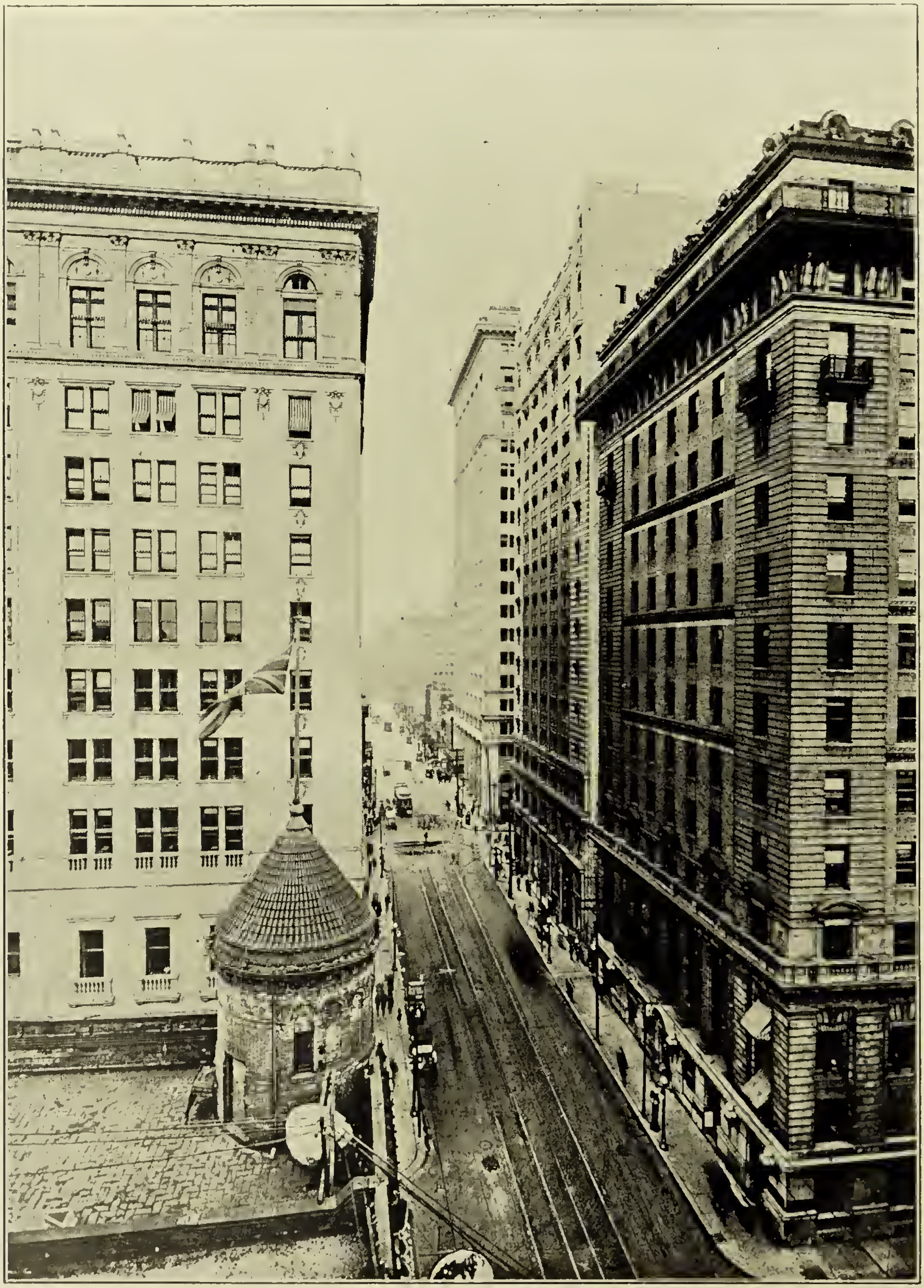
SPARKS STREET, OTTAWA

Photo, C.P. Rly.

One of the main business thoroughfares of the Canadian Capital



YONGE STREET, TORONTO *Photo, C.P. Rly.*

Sky-scrapers are everywhere making their appearance in Canadian cities

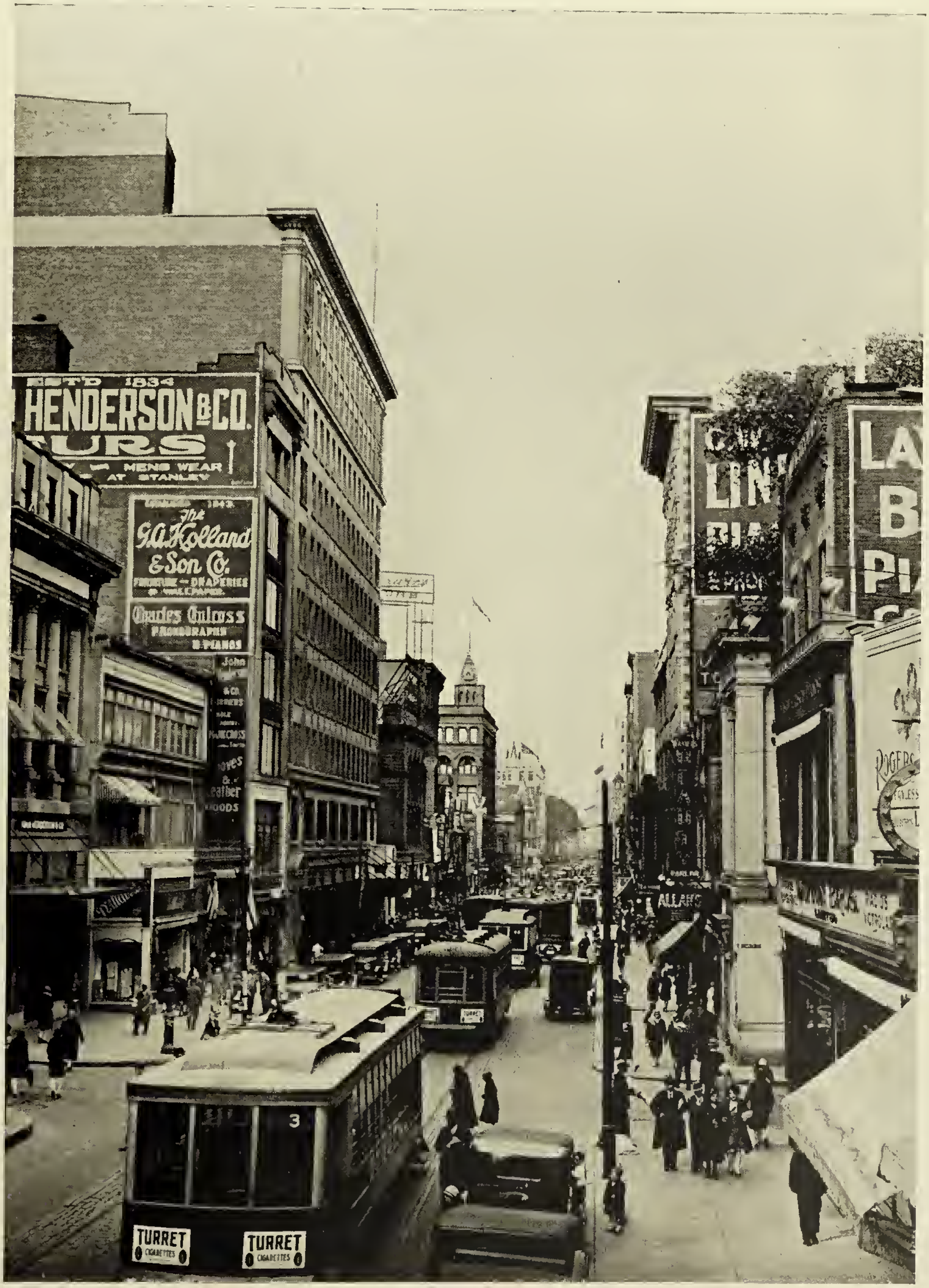
TORONTO FROM THE TOP OF THE ROYAL YORK HOTEL

VIEW OVER TORONTO—CANADA'S "QUEEN CITY"

Photo, C.P. Rly.

Photo, C. P. Rly.

NEAR KICKING HORSE PASS, ON THE CANADIAN PACIFIC RAILWAY THROUGH THE ROCKY MOUNTAINS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PHONOGRAPHS
PIANOS
Gloves & Leather Goods
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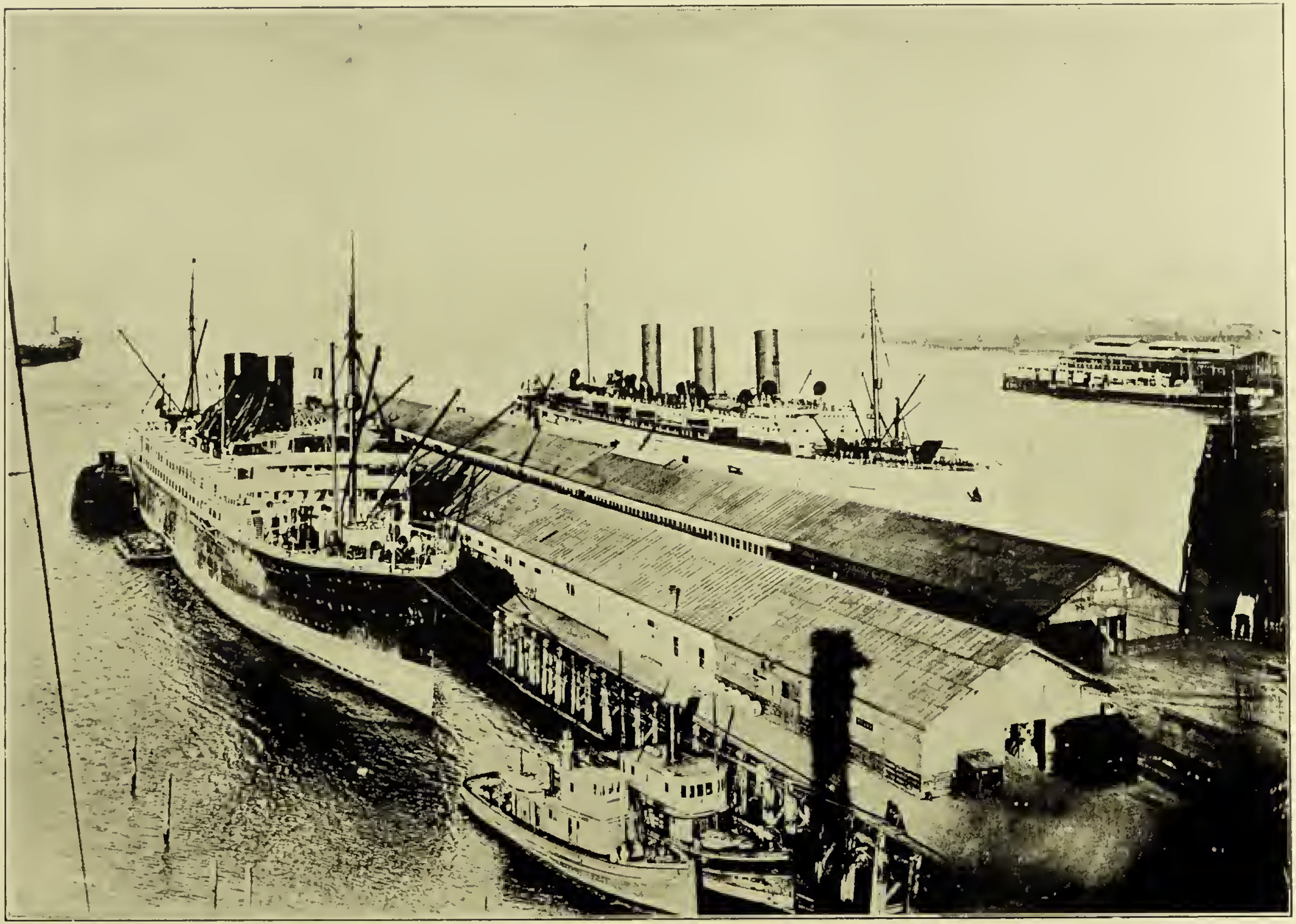
TURRET CIGARETTES

ST. CATHERINE STREET, MONTREAL *Photo, C.P. Rly.*



THE HARBOUR, VANCOUVER, BRITISH COLUMBIA *Photo, C.P. Rly.*

The principal port on the Pacific Coast. Terminus of the trans-continental C.P.R. The liners lying alongside the quays are engaged in the trans-Pacific trade to China and Japan

Photo, High Commissioner for Canada

ON THE BEAUTIFUL ST. JOHN RIVER, NEW BRUNSWICK

leaving the shores of the British Islands. Apart from the economic war influences at work, the year 1914-15 would seem to be, what may be described as, a "non-emigrating year"; for cycles occur in this as in other directions. Subsequent years, up to 1920, need not be quoted owing to the restrictions on emigration imposed by many countries for war reasons, and to the lack of shipping facilities, combined with the danger from submarines and mines. In 1921 the revival commenced, and the number rose to 148,477. In the succeeding eight years the annual average was about 124,000.

Regarding the destination of the newcomers arriving at Canadian ports, a comparison of the figures brings out some interesting results. With the rapid and remarkable development of Western Canada it was inevitable that a very large proportion of the new arrivals should travel Westward from the port of debarkation to the Prairie Provinces and British Columbia. But many thousands settled nearer home. The way may be said to have been made easier for many to settle in the Eastern Provinces through "the call to the West" having been heard and responded to by so many of the youth of other parts of Canada. There was thus a "trek" to the newer or central provinces, not merely from Europe and the United States, but also from Quebec, New Brunswick and their neighbours. The result of this was that many thousands took up the free grants of 160 acres each offered in the West by the Dominion Government; the established, or, as they are called, "improved" farms became purchaseable in the older provinces at a price equal to only a few years' rent of similar farms in the British Islands, and this for a freehold.

Simultaneously with the emigration from Europe, there has been going on a remarkable transfer, chiefly of agriculturists from the United States to Canada, and principally to the Western Provinces. To such an extent has this movement developed that in the year ending March, 1914, no fewer than 115,751 American citizens (many thousands of whom were of British parentage), crossed the International boundary for settlement in the Dominion, as contrasted with 2,412 in the year 1897 and 17,987 in the year 1900–1. Very many of these were farmers who had sold out their holdings in the United States and were therefore in possession of capital with which to start operations in Canada, and buy three acres there for every one they held in the States. It is officially stated that the American farmers who thus migrated in the year 1913–14 alone took with them to Canada more than 23,255,347 dollars. This influx from across the border has been steadily going on ever since. In 1921 no less than 48,859 transferred themselves, their activities and their capital to the Canadian side. In the same year 47,687 immigrants came from England, 19,248 from Scotland, 6,384 from Ireland, 943 from Wales, and 26,156 from other countries. In 1926–7 over 20,000 immigrants from the United States came to settle in Canada, together with 59,000 from the British Isles.

Between the years 1901–2 and 1912–13 Japanese immigrants numbered 14,617, while in the same period China was represented by a total of 25,016. Of Italians entering Canada over this period there were 88,006, most of whom were temporary railway builders; Germany sent 30,762; France, 21,085; and Austria-Hungary no fewer than 164,527; mostly peasant farmers preferring the new land to the old. There has been no more remarkable movement of population in the whole history of the world than this which has been peopling the fertile Northern half of the North American Continent with virile representatives of every civilised race. To what extent they will unite and blend has yet to be seen; but none can withstand the ultimate domination of the Anglo-Saxon Race. For the present the fact remains that thousands who in their former surroundings found life the reverse of congenial and progressive are flourishing and prosperous on the rich lands of Canada.

In order to correct the impression which the above statistics might appear to give, that Canada is largely inhabited by foreigners, here are the figures issued by the Dominion Bureau of Statistics showing that out of the total population of Canada at the last complete census in 1921 (8,412,383) 6,832,747 were Canadian-born; 1,065,454

Photo, High Commissioner for Canada

BRAS D'OR LAKES, CAPE BRETON, NOVA SCOTIA

CROW'S NEST PASS, ROCKY MOUNTAINS

Photo, C.P. Rly.

were British-born residents in Canada; and only 514,182 were foreign-born who had become naturalised, and of these 237,994 had been born in the United States.

In 1871 the Dominion had only 13 cities, 49 towns, and 106 villages; in 1921 there were 101 cities, 462 towns, and 882 incorporated villages. In Canada, as in the British Isles and Australia, it is the larger cities, however, that have grown the fastest.

COAST LINE.

The Dominion of Canada has a very extensive coast line, the *exact* length of which has never yet been properly ascertained. It is, however, computed to be longer than that of the British Isles and France combined. The northern coast is much indented, but, owing to its latitude, this part of the Dominion is of very little commercial importance though efforts are being made to utilise Hudson Bay. On the east coast, the most conspicuous opening is the Gulf of St. Lawrence, which is bordered by the islands of Newfoundland and Cape Breton, and contains within it the islands of Prince Edward and Anticosti. The Bay of Fundy, an inlet between Nova Scotia and New Brunswick, is noted as having the highest tides in the world. There are many excellent harbours, Montreal, St. John's, and Halifax, possessing splendid accommodation for shipping. The Pacific coast is generally high and rocky, and is noteworthy for its extremely irregular outline, its many fiords, and its off-lying islands—Vancouver and Queen Charlotte Islands. Prince Rupert has a magnificent harbour, and promises to be one of the great ports of the future, with the Grand Trunk Pacific Railway using this town as its western terminus. No doubt, also, the Panama Canal will influence its future very considerably.*

A LAKE IN THE BRITISH COLUMBIAN ROCKIES

Canada has three great physical divisions—the rocky plateau of Labrador Peninsula, with the hilly, forested lowlands south of it, including the Maritime Provinces, the greater part of which is designated the Acadian Region; the well-watered, fertile prairies bordering the St. Lawrence River and lying between Hudson Bay and the Rocky Mountains; and the Cordilleran Belt, containing the lofty western mountain ranges.

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* *Pitman's Commercial Atlas.*

The forest wealth of Canada is accounted the greatest in the world. Except in the northern part of the country, and on the southern central plain, the entire land is densely covered with trees, and the lumber industry is an important one.

RIVERS, LAKES, AND WATERWAYS.

One-sixth of the surface of Canada is water, and half the principal rivers of North America are found within its borders. Its chief river is the St. Lawrence, which drains the five great lakes and is the highway of Canadian commerce in the east. Owing, however, to the intense cold, the St. Lawrence is blocked by ice from the end of November to about the middle of April. The River Yukon is the chief fluvial highway in the extreme north-west; while the Mackenzie—one of the longest streams of America—the Saskatchewan, the Red, the Fraser, and the Columbia Rivers, all are important water routes.

In addition to the four great lakes which form part of the frontier line with the United States, there are three others, entirely in Canadian territory, ranging in area from 7,000 to 14,000 square miles. These are the Great Slave Lake, Lake Winnipeg, and the Great Bear Lake, which equal in area lakes Erie and Ontario. There are many small lakes dotted all over the surface of Canada, among which must be mentioned the famous Lake Nipigon—the Fisherman's Paradise.

Hudson Bay, in the extreme north, is an enormous inland sea, 590 miles in breadth and 1,300 miles in length. It is connected with the Arctic Ocean by the Fox Channel and the Fury and Hecla Strait; and also with the Atlantic Ocean by the Hudson Strait. The southern portion of this inland sea is named James Bay. According to official reports, both Hudson Bay and Hudson Strait are free from ice for about four out of the twelve months, and during this period ocean navigation is quite safe. The railway running from the prairie region to the shores of this huge bay will facilitate the shipment of wheat from the central Provinces as the distance to Liverpool from the grain centres in these immense wheat-fields is about 1,000 miles less by way of Churchill (Hudson Bay) than by Montreal and the St. Lawrence.

CROSSING THE WAPUTIK ICE FIELD IN THE ROCKY MOUNTAINS

PRAIRIES.

Southern Manitoba, Saskatchewan and Alberta are included in the Interior Continental Plain, whose rich prairies stretch from the Laurentian range of mountains to the lofty Rockies. There is a great difference in the level of this vast area, the flat prairie near Winnipeg being only 800 ft. above the sea, while parts of Western Alberta rise to 4,500 ft. The fertility of the soil is remarkable, and the productivity of the south-eastern and south-western portions of this territory, watered by the Red, Saskatchewan, Athabasca and Peace Rivers, is very great. This wonderful region—which forms the largest and most productive granary in the whole British Empire—will be described in detail under the Provinces among which it is divided.

MOUNTAINS.

In the east, the Laurentian range of mountains, whose underlying rocks are rapidly crumbling and disappearing, divides the waters flowing into Hudson Bay from those moving southward to the St. Lawrence, and westward to the Mackenzie River. These hills do not contain coal, but the many streams which have their origin in the Laurentian Range afford unlimited water power, which more than compensates for this lack. This region has, as yet, been little explored, but iron is there in abundance, together with gold, silver, nickel, cobalt, and many other valuable metals.

In the west are parallel ranges, which occupy the Cordilleran Belt from the Pacific coast to the Rocky Mountains, continuing northward to the Arctic Regions the systems which have their beginnings in the United States. The highest of them all, the Rockies, form the western boundary of the great Central Plain, and contain coal deposits of immense value. The scenery throughout their length is magnificent. Precious metals in great quantities, especially gold, are found in the ranges nearer the Pacific shore. The loftiest mountain peaks of this region are near the boundary separating the Yukon from Alaska. Mount Logan, 19,540 ft. in height, and Mount St. Elias, 18,000 ft. are among the number, while between Alberta and British Columbia are many peaks rising from 10,000 to 12,000 ft., Mount Robson's top registering 13,700 ft. From the Rockies westward the height of the various ranges diminishes, the Selkirks having summits which reach 10,000 feet, while the Coast ranges sink to 9,000 and less.

MARITIME PROVINCES.

The Dominion may be divided geographically into four parts—the Maritime Provinces, Eastern Canada, Central Canada, and the Pacific Province. In addition, there is, however, the great undeveloped North-West and the territory of the Yukon.

The 51,597 square miles included in the Maritime Provinces, which comprise the Provinces of New Brunswick, Nova Scotia and Prince Edward Island, must be multiplied seventy-two times to secure the area of the Dominion, yet this small irregular, sea-girt strip of territory contains, approximately one-eighth of the entire population of Canada. It occupies a position of the highest importance to the nation, for its harbours are the only Canadian winter ports on the Atlantic.

Its immense coast line, and the high commercial value of its enormous catches of cod, lobster and herring, make its inhabitants largely a seafaring people. The returns from its fisheries annually amount to over £4,000,000. More than 50,000 men are engaged in fishing, not only for the three most important food fishes, but as well for halibut, mackerel, flounders, hake, haddock, alewives, pollock, swordfish, sardines, salmon, and oysters. For many years a bounty of £32,000 has been distributed among these men to encourage the building and equipping of boats for deep-sea fishing. The capital invested in this industry amounts to over twenty million dollars.

The earliest settlements in these Provinces were made by the French, who named the country Acadia. At the present day the French language is almost exclusively used in Eastern Quebec, and to a large extent in the Maritime Provinces, although in the eighteenth and nineteenth centuries emigration from the United States and Great Britain contributed a large English-speaking contingent.

The climate in winter is that of the Scandinavian Peninsula, the snowfall being exceedingly heavy. In summer the temperature is that of Northern England and Scotland, and agriculture is, therefore, of considerable importance ; grain, apples and potatoes being the chief crops. Fogs are prevalent in certain sections and seasons. Dairying and horse-raising receive considerable attention, and lumbering is an important industry. This entire country was at one time covered with trees, and immense forests still remain. The value of the lumber and pulp industries of Canada can be judged from the average annual value of the output, which amounts to £74,000,000.

The Maritime Provinces are rich in minerals, coal-mining having reached the greatest development. About 8,000,000 tons of coal are yearly taken from the vast deposits. The coal is easily obtained because of the proximity of the mines to the sea, and large quantities of gold, gypsum, manganese, granite and sandstone are also taken from the ground. In Nova Scotia there have been

A HUNTING CAMP NEAR LAKE HURON *Photo, C.P. Rly.*

recent important discoveries of tungsten ores, and in this province also the iron and steel industries are highly remunerative. The value of the mineral output from the Maritime Provinces averages between 6 and 7 millions sterling a year.

The principal cities are Halifax and Sydney, in Nova Scotia; St. John and Fredericton, in New Brunswick; and Charlottetown, the capital of Prince Edward Island. Moncton, in New Brunswick, is a manufacturing centre, its importance hingeing on the fact that it is the connecting link in the Grand Trunk Pacific and Inter-Colonial railway systems.

A well-known writer has described Nova Scotia as fronting the Atlantic with a rocky rampart of defiance and defence. Climbing the hills, sloping upwards from the coast to the interior, there is the forest, and then, descending, there is on the other side as fine a farming country as anywhere in the world. Over in the north-eastern part is a great island, Cape Breton, where lie immense coal beds, while the centre of the island is a scenic paradise.

A short and pleasant steamboat ride from the northern part of Nova Scotia lands you in another Province, PRINCE EDWARD ISLAND, the smallest Province in the Dominion, and strikingly different from all the rest. "The Garden of Canada," it is sometimes called, or "The Million Acre Farm"—cultivated from end to end.

Landing again in Nova Scotia, and travelling westward by the isthmus which joins Nova Scotia to the mainland, you are in the third of what is called the Martime Provinces—NEW BRUNSWICK. Here, again, you have all the variety you want within the boundaries of a single province. Seaports and fishing villages dot the eastern coast, on the Gulf of St. Lawrence, and the southern coast, too, looking across the Bay of Fundy to Nova Scotia. In the interior, stretches a mighty forest, where the lumberman plies his busy axe, and the hunter tracks the lordly moose; and penetrating this forest in many directions are smiling valleys of rich land, where the farmer lives in peace and plenty.

EASTERN PROVINCES.

The Eastern Provinces are the original Canada, and include the Province of Quebec, lying on both sides of the St. Lawrence River, and Ontario, a boot-shaped Province stretching west to Manitoba, whose southern boundary is largely formed by the Great Lakes. This section of the Dominion has always stood foremost in population, commerce, manufactures, agriculture and forestry. Until the transfer to England, in 1759, the City of Quebec, then the capital of Canada, and now of the Province of Quebec, dominated the trade of all that part of the United States lying west of the Alleghanies and north of the Ohio and Missouri Rivers, as well as that of the southern part of Eastern and Central Canada as far west as the Rocky Mountains. The only trade during this period was the fur of wild animals.

The inhabitants of Eastern Canada now number about 5,961,700, and its area is about 1,000,000 square miles, by far the greater part of which is covered with dense forests. Because of its vast wooded areas, the cutting of lumber is a leading industry. Some of the finest agricultural country in the world is included in the tract, 700 miles in length and varying in breadth from 100 to 200 miles, lying west of Quebec City, along the shores of the St. Lawrence River and Lakes Huron, Erie, and Ontario. This is the most southern portion of Canada, and its densely-peopled land is well cultivated. The short, hot summer brings to perfection the various grains and small fruits, the south-western sections being famed the world over for the unrivalled quantity and quality of their pears, peaches and grapes. Good railway facilities make marketing easy, for cities, towns and villages are scattered thickly throughout this district, which about equals in area England, Scotland and Wales.

Of Quebec, it has been said that it contains the two extremes of wildness and civilisation. Its northern region is little visited, scarcely even explored ; but through the southern region of the province flows the king of rivers, the St. Lawrence, past towns and cities where white men have dwelt for centuries ; and for many miles back from either side of the river stretch the innumerable farms of French-speaking citizens, whose ancestors laid the foundations of Canada.

Ontario is the largest of all in population, the richest in its development, alike of agricultural and manufacturing industry, and one of the largest even in area. Along the northern shores of the long series of inland seas, known as the Great Lakes—Ontario, Erie, Huron and Superior—there are farms and orchards innumerable. The landscape is dotted with busy manufacturing towns as well as thriving country villages—this is Ontario, until the wilderness is penetrated, lying between the greatest of the lakes and Hudson Bay. At the far western end of Lake Superior you come upon more centres of busy human activity, where ships are loaded with the grain from the distant prairie.

Cattle-raising and dairying also are important and profitable industries of this section of the Dominion, and long-distance trading by way of the St. Lawrence River is carried on most expeditiously from the ports of Montreal and Quebec, their competition with seaports of the United States showing a wonderful increase. Both cities are located in the Province of Quebec, of which Quebec City is the capital and the tidal port of the St. Lawrence.

Montreal is Canada's chief city, and is at the head of ocean navigation on the St. Lawrence. It has a commanding situation on the gently sloping terraces of the triangular island of the same name, formed by the branching of the Ottawa River as it flows into the St. Lawrence. Toronto, the capital of Ontario, is second in point of size among Canadian cities. Hamilton, London, and Kingston are other important towns of the Eastern Provinces.

Ottawa, also in Ontario, has been the capital of the Dominion since Confederation, and is the residence of the Governor-General, who is appointed by the King. During the early fur-trading days, Quebec was the capital city, remaining so until General Wolfe transferred the country to Great Britain

CENTRAL CANADA.

The Prairie Provinces—Manitoba, Saskatchewan and Alberta—have been aptly styled the world's greatest wheat farm. They contain 758,817 square miles, nearly two-thirds of which have never been surveyed. There is a large proportion of wooded country, and a bare fraction of the land is at present under cultivation. Yet in one year this limited amount of territory produced millions of bushels of wheat, oats, barley and flax, the long periods of sunshine, in conjunction with the rich, black soil, affording the largest yield per acre of grain known. By comparing the soil now being tilled, and its enormous productivity, with the total area of land which may be brought under cultivation, a definite idea may be gained of Central Canada's existing opportunities, and of the wealth which must accrue from their sane use. It is a land of untold possibilities, a land that is progressing by leaps and bounds.

About one-third of the area of these Provinces is prairie land, extending east and west some 900 miles, and varying in width from 100 to 400 miles. Homesteads of 160 acres—a quarter section—are given free on condition of settlement. Until recently, the south-western portion of this prairie country has been devoted almost entirely to cattle-raising. The annual returns from the export of cattle are very heavy.

The rapid construction of railways through the prairie belt and the wooded region north and east of it, insures cheap and speedy transportation, not only of crops, but of fuel. Coal deposits, unequalled in area and for economy of working, underlie the whole region along the eastern slope of the Rocky Mountains, several seams lying within a hundred feet of the surface.

In thirty years the population of these three provinces increased from 400,000 to 2,175,900. Yet these figures mean scarcely three persons to each of the 758,817 square miles of territory. This low average is accounted for by the vast extent of untenanted forest lands, which are open to cultivation, but as yet are uncleared of the dense growth of poplars.

A LOG CABIN IN THE WILDERNESS *Photo, C.P. Rly.*

The climate is stimulating and healthful, favourable to hardy bodies and vigorous minds. There is less rain and snow than in other portions of the Dominion, and it is important to note that more than 50 per cent. of the annual rainfall occurs during the summer months, when it is most needed by the farmer. The winters are severe, but in the western and south-western sections they are modified by the " chinook " wind, which carries the warmth and moisture of the Japanese current across the Rocky Mountains and exerts a marked influence on the temperature of the plains.

There are but few districts where water is not abundant, and the sources of the principal streams are already being safeguarded by the establishment of numerous forest reserves, which will protect the rivers and also insure an adequate timber supply for the future.

The chief city of the Central Provinces is Winnipeg, the capital of Manitoba and the commercial doorway to the Canadian North-West. Regina is the capital of Saskatchewan, and Edmonton the capital of Alberta.

PACIFIC PROVINCE.

The Pacific Province of British Columbia is Canada's western seaboard. It is 760 miles from north to south, and 470 from east to west. Roughly speaking, it lies between the Rocky Mountains and the Pacific Ocean, and in the same latitude as the British Isles, Northern Germany, Denmark, and Sweden.

Victoria, the capital, on Vancouver Island, is a little south of the latitude of Paris, and has the climate of the Channel Islands.

The whole coast of British Columbia is directly affected by the warm Japanese current, and the climate varies very little from south to north. The harbours are open the year round. The coast climate resembles very closely that of the United Kingdom in warmth and moisture.

The general character of the country is mountainous ; parallel to the main chain of the Rocky Mountains, which form the eastern boundary of the Province, are the Gold Range, the Cascades, and the Coast Range.

The mountains are heavily forested with large and valuable timber, but the intervening valleys are generally either lightly timbered or altogether bare. The climate of the interior valleys is hotter in summer and milder in winter than in the adjoining prairie Provinces.

The Gold Range of mountains gets its name because of the discoveries in it of gold in immense quantities, at various points, extending from the southern to the northern limit of the Province. The discovery of gold, in 1854, was the beginning of development in the Province.

In the southern portion of British Columbia the exhaustion of the placer gold mines was followed by the discovery of mines of silver, copper, lead, gold, zinc, and coal, which have been developed on a very large scale in recent years.

Valuable minerals are found in many other portions of the Province as well. The value of the territory as the western seaboard of Canada is enhanced by reason of the immense deposits of coal on Vancouver Island.

The deep sea fisheries are a source of great wealth, and the salmon fisheries in the rivers are almost as important as mining. The mountainous forested area is of such vast extent that the supply of timber is practically inexhaustible.

While the coast climate is very wet, that of the interior valleys is inclined to be dry. These valleys are very attractive as a place of residence. Where the rainfall is insufficient for agricultural purposes, irrigation is successfully and economically applied. The interior valleys are suited for grain-growing and grazing, but are especially adapted for the growth of apples, plums, cherries, and other hardy fruits, and, in the more favoured sections, of pears, peaches, and grapes.

About this beautiful province, or the Yukon and North-West Territories, nothing further need be said here, for every province in the Dominion, including the two vast Territories, is separately and exhaustively described in later pages.

GOVERNMENT.

The Dominion of Canada is a confederation of nine Provinces and two Territories. The duties of government are divided between the Dominion and the Provinces, though the law-making power is vested in the King or his representative, and the Dominion Parliament. The Legislature, whose seat and administration buildings are at Ottawa, is composed of an Upper House, or Senate,

THE MAIN LINE THROUGH THE FAMOUS WENTWORTH VALLEY, NOVA SCOTIA

appointed by the Government, and the Lower House, or Commons, elected by the people.

Manhood suffrage prevails in the elections for the House of Commons, though there are some slight property qualifications required by certain of the Provincial Legislatures.

The members of Parliament who compose the Cabinet, or Government, must have the support of a majority of the Commons, or elective branch, in order to hold power to administer the laws passed by Parliament.

The Provincial Governments have full control over local affairs, subject only to considerations which affect the welfare of the country as a whole. The people have the right to hold an election at any time to express their views as to a proposed alteration of policy resulting from change of Government. This system of responsible government gives the people more absolute control than any other form, for every member of the Government is made directly responsible to the people for every administrative Act.

The Dominion Parliament controls criminal law, the navy, army, post office, railways, indirect taxation by the tariff and excise, trade relations with other countries, and, in general, all matters of national interest.

The Dominion owns and controls the public lands in the three Central Provinces, and in the Yukon and North-West Territories, and is now active in the work of promoting immigration to the many millions of acres of agricultural land as yet unoccupied and only awaiting development to secure rich returns from the soil. The Provinces of Ontario, Quebec and British Columbia have vast areas of public lands, which are administered by the Governments of these Provinces. Prince Edward Island has no remaining public land, and the other Maritime Provinces very little.

CANNED SALMON Gift of British Columbia to Imperial Govt.
05258
CANNED SALMON

A TRAINLOAD OF TINNED SALMON IN TRUCKS AT VANCOUVER, BRITISH COLUMBIA
A gift of British Columbia to the Imperial Government during the Great War *Photos, C.P. Rly.*

Canada is remarkable for the maintenance of order, respect for law, and for the effectual safeguarding of life and property. Legislatures elected by the people govern the various Provinces. They provide the civil law, administer both civil and criminal laws, plan for free primary and adequate higher education, also for municipal government, and levy taxes for their support. It is their right, but one seldom exercised, to charter and construct railways, and to forward in every way the interests of those under their jurisdiction.

RAILWAYS.

Transportation is a most important and live problem in Canada, for its interprovincial traffic enormously exceeds its foreign, and on its railways depends the very existence of a large proportion of its people. In 1850 there were only 65 miles of railway lines in the whole of Canada. The total length of lines in operation in 1930 was about 42,412 miles, and the capital expended on construction amounted to over three billion dollars. The Dominion has an immense field of undeveloped resources, the products of vast areas being as yet economically unavailable. Therefore, recognising the possibility of abuse of power in the hands of railways engaged in opening up this El Dorado, the Canadian Government has established a Commission with full authority to adjust all disputes between the railways and the public, and to control all charges.

Nation-wide interest centres in the three great transcontinental systems—the Canadian Pacific, the Grand Trunk—with its important connection, the Grand Trunk Pacific—and the Canadian Northern. To these is added a fourth line—the Intercolonial—operated in the Eastern and Maritime Provinces. In 1922 the Canadian Northern Railway, the old Grand Trunk and the Intercolonial, were all consolidated under a single national board, and this Government system now controls over 24,000 miles of railway.

The Intercolonial originally was built as a military road connecting the Maritime Provinces with Quebec and Ontario. It is owned by the Government of Canada, and its 1,592 miles of track bring St. John, Sydney and Halifax into communication with Montreal, the largest city and the commercial centre of the Dominion.

A VIEW OVER OTTAWA, CAPITAL OF THE DOMINION OF CANADA *Photo, C. P. Rly.*

The Canadian Pacific, with the exception of the Siberian Road, and the Canadian Government Northern System, is the longest continuous railway line in the world controlled by one management. The total mileage of its main travel and commercial artery, together with its innumerable branches which send the life-awakening current of communication into otherwise isolated districts from one side of the Continent to the other, amounts to nearly 17,000 miles.

ON THE DRIVEWAY, OTTAWA *Photo, C.P. Rly*

Although these railway systems are of great size and importance, the Canadian Pacific is, historically, the primary system, and a more detailed account of this nation-making undertaking must, therefore, find a place in this Encyclopedia.

CANADIAN-PACIFIC RAILWAY.

One of the greatest transportation and colonising enterprises with which the British race is associated is the Canadian Pacific Railway. Its system consists of over 17,000 miles of railway (including sidings), practically all of which has been constructed within the past forty-five years. But the railway portion of the undertaking—gigantic enough—is but one of the many activities in which the C.P.R. is so busily employed. It controls many steamships, telegraphs, telephones, hotels, and millions of acres of land.

The Canadian Pacific Railway owes its initiation to the desire of the Canadian Government to develop the immense districts between Ontario and the Pacific coast, and to provide an " all British " route across the North American Continent. The total length of the original transcontinental line was 2,547 miles, of which the Canadian Government built two sections, having a length of 614 miles, and the Company constructed 1,933 miles. The Canadian Government subsidised the Canadian Pacific Railway by a money grant of about £5,000,000 and a land grant of 25,000,000 acres. The line was to have been completed by 1st May, 1891, ten years after operations commenced, but such remarkable progress was made with the construction that, upon the Canadian Government advancing a further four and a half million pounds in 1884, the Canadian Pacific Railway administration undertook to complete the line by 1st May, 1886, or five years earlier than was originally contemplated. this meant that the average rate of construction would be 500 miles a year, mostly through an unsurveyed country, and included the crossing of the Rocky Mountains. This range rises to about 12,000 ft. in Canada, and the railway, after climbing to an altitude of about 5,000 ft. at Lake Louise, pierces the range. Although the line then falls all the way to Vancouver, a distance of 350 miles, where sea-level is reached, the fall in the first 150 miles—from Lake Louise to Revelstoke—is no less than 3,500 ft.

Even greater progress than that contemplated by the amended scheme was made, the whole length of railway being completed on 7th November, 1885, when the late Lord Strathcona (then Sir Donald A. Smith) drove the last spike at Craigellachie, British Columbia, thus finishing the "all British" railway across the North American Continent.

By a supplementary agreement made with the Canadian Government in 1886, the Canadian Pacific Railway became under obligation to improve its line through the Rockies when called upon to do so by the Government. During recent years much work has been carried out in improving the gradients of the railway on the section where the gradients are most severe, the engineering achievements being of so remarkable a character that they call for reference here. The incline of one in twenty-two and a half for a distance of over four miles has given place to a line in which the worst gradient is one in forty-five and a half, but the length of this section has been more than doubled. Several tunnels have been constructed on the new line. These are of cork-screw shape, so that the train enters a tunnel at one end and emerges at the other at almost the same spot, but on a level 40 feet or so lower. By means such as these the gradients have been improved. The cost of the new line was about £300,000 for the eight miles, but two engines can now haul a 700-ton train at a speed of twenty-five miles an hour over this section, whereas previously four locomotives would have been required for the load, and the speed would not have exceeded six miles an hour. By this one improvement the saving in time is, therefore, twenty minutes for each train, without reckoning the 50 per cent. reduction in the locomotive power employed.

The Canadian Pacific Railway, when originally constructed, was, like most American railways, but a single line. The traffic has, however, increased so greatly that already long stretches of the railway have been double-tracked. Work has been completed on a tunnel through Mount McDonald, in the Selkirk Range, and it is now the most stupendous engineering feat of its kind on the North American Continent. The Selkirk Tunnel is about five miles in length, and

RIDEAU HALL, NEAR OTTAWA
The residence of the Governor-General of Canada

Photo, C.P. Rly.

lowers the old gradient of the railroad to a very considerable extent. It took over four years to complete, and during that time 500 men were almost constantly employed.

As can be gathered from the fact that the Canadian Pacific Railway received a considerable subsidy in the shape of ground from the Canadian Government, a large part of its income is derived from the sale of farms along its route. In this connection it must not be forgotten that each sale means the planting of an industry along the course of the railway which will produce traffic for the line for all future time, as when the Canadian Pacific Railway sells a parcel of land to a good farmer-settler, it is just beginning its profitable relations with him. For he will, in all probability, be a heavy shipper of grain outward over its lines in future years, and will occasion the shipment of much merchandise inward as well. So it is not to be wondered at that the greatest importance is attached to the land asset.

At the present time the Canadian Pacific Railway owns over 6,000,000 acres of land in Manitoba, Saskatchewan and Alberta, and about 1,500,000 acres in British Columbia. In addition to the original grant from the Government, the Company acquired lands through purchasing other railways which possessed land grants. The interesting feature about these lands is their steady rise in value. In 1905 the sales were 509,386 acres at an average of 4.80 dollars per acre. In 1909 the sales of similar lands were 306,083 acres at an average of 10.96 dollars. And finally, during the last year previous to the economic upheaval caused by the World War, the sales averaged 474,798 acres at an average of 15.77 dollars. This progressive rise in value is most impressive.

Without an adequate water supply, land is unsuitable for farming, and large areas owned by the Canadian Pacific Railway were found to be of this character ; so some years ago the Company determined to improve these tracts by carrying out extensive irrigation schemes. A sum of about 3,000,000 dollars sufficed to irrigate about 350,000 acres, being the irrigable portion of the Western Block of the arid lands in the Province of Alberta belonging to the Railway. These lands were formerly considered to be of little or no value ; they were, of course, unsaleable. By this expenditure the Company was able to sell a little more than one-third of the block for more than 9,000,000 dollars. The Western Block of arid lands contains approximately 995,000 acres, of which 642,000 acres are declared to be non-irrigable. There are two other blocks—the Central and the Eastern—each containing approximately one million acres. The irrigation of the Eastern Block was next taken in hand, and in April, 1914, Sir Thomas Shaughnessy, then President of the Canadian Pacific, opened the great dam at Bassano, which rendered an additional 400,000 acres of irrigable land ready for settlement.

Sir Thomas Shaughnessy's scheme of " Ready Made " Farms has attracted world-wide attention, and many practical farmers have taken advantage of the liberal terms under which a farm may be purchased in the best farming districts of Saskatchewan and Alberta on an instalment basis spread over a period of twenty years. A comfortable house and barns for livestock are erected on these farms, a well dug, the farm fenced, and a portion of the land seeded to crop so that a farmer may go right on to his farm, and is saved all pioneering difficulties. The Company also grants loans to approved settlers for the purchase of live stock. The " Ready Made " farms in the irrigation districts are much sought after by British farmers ; each year the Canadian Pacific Railway has more applications than it has farms to sell. At central points the railway administration has established demonstration farms designed to teach the new-comers what the land will do and how it is to be treated. Everything possible to ensure that the land will be worked scientifically and profitably, is done.

An important feature in the Canadian Pacific Railway's progress as regards the Province of British Columbia has been the opening up of the Upper Columbia Valley by the construction of the Kootenay Central Railway. Here, also, the railway is co-operating with the Dominion and Provincial Governments in the construction of an automobile road from Banff to Windermere. The Kootenay Central Railway links the main line of the Canadian Pacific with the Crow's Nest branch, and opens for development a rich agricultural district, into which settlers are already thronging.

No less wonderful than the extension of the railway system has been the growth of the Canadian Pacific Steamship Services, for now, only some forty-five years after it contracted on the Clyde for its first three steamships, the Company owns a very considerable fleet. It operates its own services on the Atlantic and on the Pacific, in addition to maintaining a service on the Great Lakes and the lakes and rivers of British Columbia.

It was early in 1883 that the Company contracted on the Clyde for the construction of three steel screw steamers for service on the Great Lakes, and on this service they now have steamers running. The next development took place soon after the transcontinental railway was linked up from the eastern and western coasts of Canada in 1885, for in 1887 the C.P.R. established its Pacific Service between Vancouver and the Far East. In 1896 the British Columbia Lake and River Service was inaugurated, and in the following year, owing to the gold-seeker's rush to the Klondyke, a new service was begun on the British Columbian Coast which has since proved so popular that it has been considerably augmented. The C.P.R. Atlantic Service was established as recently as 1903, when the Company bought from the Elder Dempster Line fifteen of their finest steamships and established the Atlantic Service from Liverpool, Bristol and London, extending it the following year to include Antwerp. Nineteen hundred and thirteen witnessed a further expansion in the sphere of operations, for in April an additional service was begun from Trieste, on the Adriatic, to Canada.

Considerable development has also taken place in the other industries in which the Canadian Pacific is interested. Over 120,000 miles of telegraph wires are in operation; and nineteen first-class hotels have been opened to the public.

DOMINION LANDS.

The Crown Lands of the Dominion of Canada are situated in the North-West Provinces, and in the Railway Belt of British Columbia (*q.v.*). Of these lands, large areas are offered in free grants as homesteads for settlers. The lands are laid out in townships of thirty-six sections. Each section contains 640 acres, and is divided into quarter sections of 160 acres. A quarter section of 160 acres may be obtained by a settler on payment of an entry fee of 10 dollars and fulfilment of certain conditions of residence and cultivation. To qualify for the issue of the patent for his homestead, a settler must have resided upon his homestead for at least six months in each of three years; must have erected a habitable house thereon; must have at least 30 acres of his holding broken, of which 20 acres must be cropped, and must be a British subject. According to recent figures, a total area of 124,399,608 acres of Dominion Lands has been alienated, this area being equal to 5,400 townships, or to 194,400 square miles. As the number of acres *surveyed* is about 154,552,067 acres, equal to 6,708 townships, or to 241,488 square miles, there remains still for disposal a *surveyed* area of over 30,000,000 acres. It should, however, be pointed out here that the statistics of a new country change rapidly, and are therefore only approximately correct.

In the Maritime Provinces, in Quebec and in Ontario, the public lands are administered by the Provincial Governments. In Prince Edward Island all the land is settled. In Nova Scotia there are now no free grants of land. In New Brunswick the virgin lands are practically free. In Quebec the area of the public lands, subdivided and available for alienation by sale or free grants, was 7,066,756 acres. In Ontario, almost all the free grant land in the Province, exclusive of the new district of Patricia, has been taken up, but there are vast areas still available. In British Columbia, any British subject, being the head of a family, a widow, a *femme sole* who is over 18 years of age and self-supporting, a woman deserted by her husband, a woman whose husband has not contributed to her support for two years, a bachelor over 18 years of age, or any alien on his making a declaration of his intention to become a British subject, may pre-empt out of the unoccupied and unreserved Crown Lands, not being an Indian settlement, 160 acres at the price of one dollar per acre, to be paid in four equal instalments.

ROADS.

It is unnecessary to emphasize the importance of public highways in a vast country like Canada, and it may therefore

DOMINION HOUSES OF PARLIAMENT, OTTAWA, CANADA

Photo. C.P. Rly.

be of interest to give here the length of roads open to traffic in 1930.

Type.	Length.
Earth Roads - - -	158,000
Improved Earth - -	161,000
Gravel - - - -	57,000
Macadam (Water) - -	4,300
,, (Bituminous -	1,500
Concrete (Bituminous) - -	900
,, (Cement) - -	1,100
Total miles - -	383.800

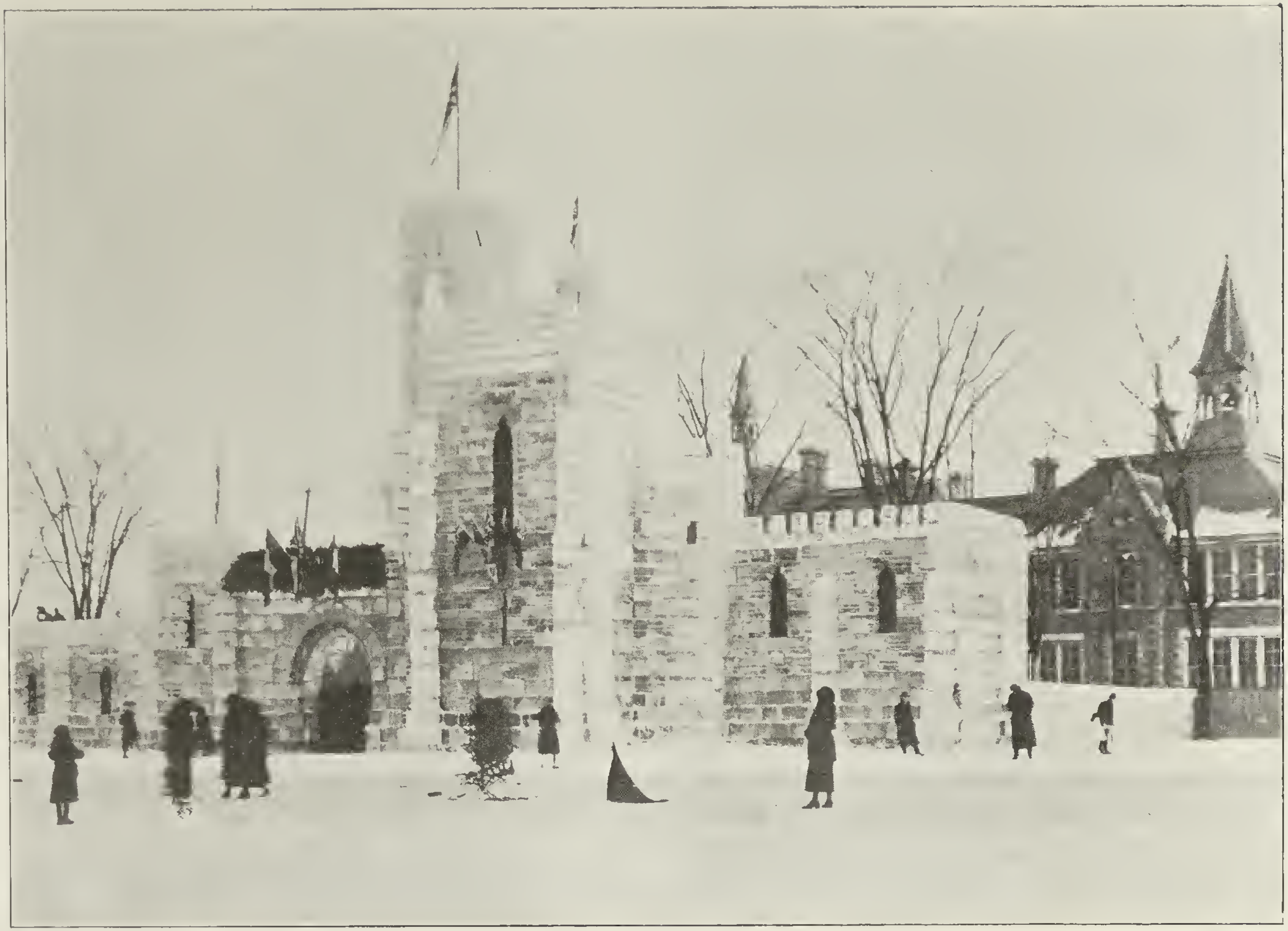
The number of motor vehicles registered in the Dominion up to 1930 was over 1,000,000.

OTTAWA. THE DOMINION CAPITAL.

As early in Canadian modern history as 1858, we read of the fiery speeches of political leaders over the site of the proposed Dominion capital. One Ministry threatened to resign unless a place was immediately chosen, although the population in the whole of this vast land then amounted to only a few millions, and the country possessed several large commercial centres. For years previous Canada had possessed a moving capital; Parliament sitting alternately at Quebec and Montreal. So fierce was the controversy over the many suggested towns and sites, that no decision could be arrived at, and an appeal was made to H.I.M. Queen Victoria. After a very thorough investigation of all claims and sites by qualified officials, the beautiful and strategic position at Ottawa, Ontario, was finally chosen. Although Ottawa was the name given to the Dominion capital, it was, previous to its elevation, a little, out-of-the-way place called Bytown—after Colonel By, the constructor of the Rideau Canal, which runs through the city, is 126 miles in length, and was suggested by the war of 1812.

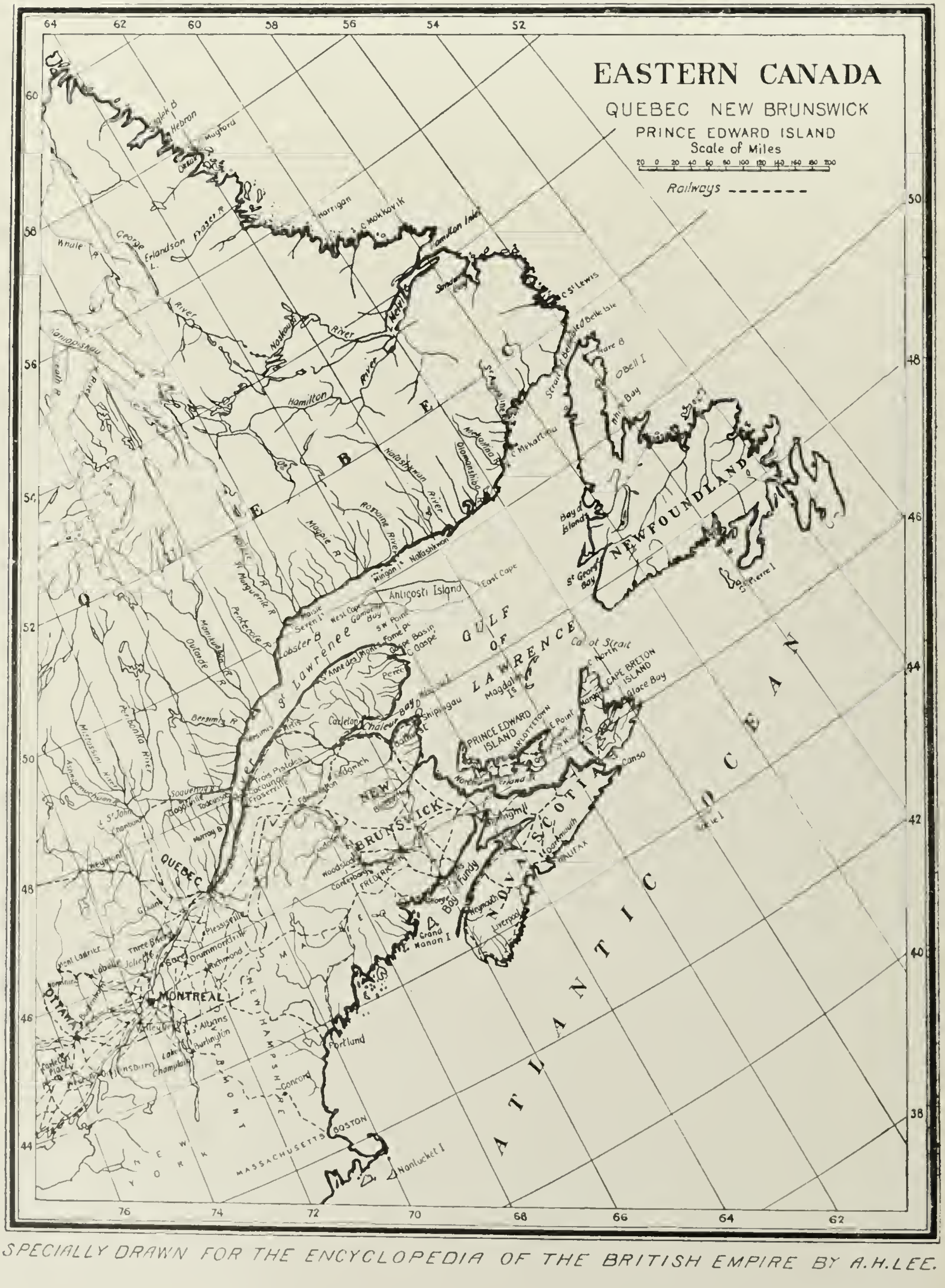
Ottawa stands on the west bank of the River Ottawa, at a point where the Rideau joins the larger stream. Although in the Province of Ontario, the elevated position of the capital gives it charming views over the Province of Quebec. The population numbers well over 120,000. It is a converging point for rivers, railways and canals, and has enormous waterfalls in the close vicinity which are capable of providing ample power for all purposes for many years to come. Here lives the Governor-General, the King's direct representative. In the Parliament buildings on the hill overlooking the river the legislators of federated Canada meet and make the laws which claim and secure obedience throughout a territory 3,000 miles wide. There are two Houses, one formed of senators appointed for life, and the other a House of Commons elected for five years at a time. Clustering round this High Court of Parliament, and overflowing into other parts of the town, are the offices of the various Ministers and their Departments. There is a Public Works Department, for instance, which sees to the building of post offices, custom houses, and such other works as are judged to be of national rather than of merely local importance. There is the Railway Department—the managing owner of the Government lines, trunk and interprovincial systems. There is also an independent judicial body called the Railway Commission, which hears the complaints of the railway companies' customers and decides in general whether the companies are doing the fair thing by the people of the country. There is the Customs Department, the great collecting agency; for most of the Federal Government's revenue comes in the shape of customs duties. There is the Department of Agriculture, watching over the greatest of the country's industries. There is the Department of the Interior, which, among other things, regulates immigration, keeping out people unfit for the country, while doing its best to bring in as many as possible of the sort of people the country is thirsting for. There is the Navy and Marine Department, which not only directs the Royal Canadian Navy, but also sees to the lighting and general security of the water routes to and from the Dominion. There is also the Militia or War Office, which controls the Canadian military system. (See under *Defence of the Empire.*)

"Though each Province has its own Courts of Law, the Judges are appointed, not by the Provincial, but by the Federal Government, this being the special care of the Minister of Justice; and the reputation of Canadian Judges for independence stands deservedly high, especially when it is considered that the salaries paid are small compared



AN ICE PALACE IN THE OTTAWA CARNIVAL *Photo, Canadian National Rlys.*

This palace is built entirely of blocks of ice and is the centre of a wonderful carnival, held each year in the Dominion Capital. It usually culminates in a spectacular assault upon the glittering ice palace with fireworks and coloured lights


EASTERN CANADA
QUEBEC NEW BRUNSWICK
PRINCE EDWARD ISLAND
Scale of Miles
Railways
QUEBEC
NEWFOUNDLAND
GULF OF LAWRENCE
ATLANTIC OCEAN
NEW BRUNSWICK
NOVA SCOTIA
PRINCE EDWARD ISLAND
CAPE BRETON ISLAND
Anticosti Island
St Lawrence
QUEBEC
MONTREAL
OTTAWA
Hebron
Hamilton Inlet
C St Lewis
Strait of Belle Isle
Bay of Islands
St George Bay
St Pierre I
Gaspé
Chaleur Bay
Charlottetown
Halifax
Canso
Glace Bay
Bay of Fundy
Fredericton
Grand Manan I
Portland
Boston
Nantucket I
Sable I
MASSACHUSETTS
NEW HAMPSHIRE
VERMONT
MAINE
NEW YORK
Concord
Burlington
Lake Champlain
Three Rivers
Sherbrooke
Saguenay R
Lake St John
Hamilton River
Natashkwan River
Romaine River
Magpie R
Ste Marguerite R
Moisie R
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SPECIALLY DRAWN FOR THE ENCYCLOPEDIA OF THE BRITISH EMPIRE BY A.H.LEE.

to the handsome stipends of Judges in England. A dissatisfied suitor in Canada can appeal from a Canadian Court to the Judicial Committee of the Privy Council in England. There is also, however, a Supreme Court of Canada sitting at Ottawa for the same purpose of hearing appeals, and for the decision of important questions concerning the Provinces and the Dominion. Another great Ottawa institution we must not fail to mention—a Roman Catholic University."*

Photo, Canadian National Rlys.

CARTIER SQUARE, OTTAWA, DURING THE ICE CARNIVAL

" The electric railway system of Ottawa has always been famous. It sprang into existence in an almost perfect condition, and has always been looked upon by experts as a model. It affords easy access to every quarter of the city, and to remote points such as Rockcliffe Park, Victoria Park, in exactly the opposite direction, and other important parks, as well as the exhibition and different athletic grounds. By it the suburbs, particularly Hull, are placed in convenient communication with the city.

" The magnificent water power at Ottawa has afforded special facilities for electric development. Ottawa has become the centre of what bids fair to be a radiating system of electric railways, which will one day connect the capital with all the surrounding towns and villages. For scenic beauty and picturesqueness the Canadian capital is not surpassed by any capital in the world. The Houses of. Parliament and surrounding Government buildings stand upon the high bank of the beautiful Ottawa River, just below the great Chaudière Falls. Through the heart of the city runs the Rideau Canal. Beside the canal the Grand Trunk Railway has built a handsome station, and a little further along, just opposite the Parliament Building, the same Company has constructed the ' Chateau Laurier.' This is one of the handsomest hotels on the American Continent. It is all 'front.' From the south, the view is over the deep cañon through which the canal drops to the level of the Ottawa. West, the view is over the native trees of a beautiful park, beyond which flows the Ottawa, the inter-provincial bridge reaching over to Hull, an important lumber and manufacturing town. Away to the north spreads the growing city. That way, also, lies Government House, the home of the Governor-General. Miles upon miles of splendid driveways have been constructed about the capital within the past decade."*

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* *The Country Called Canada.*

Photo, High Commissioner for Canada

A MARTELLO TOWER, ST. JOHN, NEW BRUNSWICK

Province of New Brunswick

New Brunswick lies mainly between 45° and 48° N. latitude, and 64 and 68° W. longitude. It is bounded on the south by the Bay of Fundy, on the east by the Straits of Northumberland and Gulf of St. Lawrence, on the north by the Bay of Chaleur and the Province of Quebec, and on the west by the State of Maine. The length of the Province from north to south is 230 miles, its greatest breadth is 190 miles, and it has an area of 27,985 square miles, and a sea coast of about 600 miles.

EARLY HISTORY.

When Jacques Cartier made his first voyage of discovery, he landed, on 1st July, 1534, on New Brunswick soil, somewhere between the mouth of the Miramichi and the Bay of Chaleur. On 24th June, 1604, Samuel de Champlain entered the mouth of the River St. John and explored the river and coast line. The first French settlement on the continent was on the Island of St. Croix, where Poutrincourt and his party spent the winter of 1604–5.

The Province of New Brunswick formed a part of ancient Acadia, and the site of the present city of St. John was a mission station of the Jesuits as early as 1606. In 1630 Charles La Tour built a fort on the west side of the harbour of St John, which became the scene of the conflicts which took place between him and D'Aulnay between 1640 and 1645. It was in the latter year that Fort La Tour was taken by D'Aulnay, notwithstanding the heroic defence made by Lady La Tour. In 1650 D'Aulnay died and La Tour recovered possession of his fort, but it was captured by an expedition sent out by Cromwell in 1654.

New Brunswick remained in possession of the English until 1670, when it was restored to the French under the provisions of the Treaty of Breda. A few Seigneurs obtained large grants on the River St. John during the latter part of the seventeenth century, but very little was done in the way of developing the resources of the country; their chief business was trading with the Indians.

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* *Montreal, Quebec, and Ottawa.* Published by The Grand Trunk Railway.

In 1692 Fort Nashwaak, near the site of the present city of Fredericton, was the seat of government in Acadia. It was unsuccessfully besieged in 1696 by a force from New England under Colonel Church. In 1698 old Fort LaTour at the mouth of the River St. John was rebuilt and became the seat of government, but it was abandoned in 1700. From that time the French settlements on the River St. John declined, and did not assume any importance until after the expulsion of the Acadians from the peninsula of Nova Scotia in 1755. In 1758 the French were driven away from the St. John River by an expedition under Col. Monckton, the fortress, which the French had built on the Chignecto peninsula, having been captured by the English three years before.

FIRST ENGLISH SETTLEMENT.

In 1762 settlers came into the Province from New England and founded the settlements of Maugerville, Sheffield and Gagetown, and, at a somewhat later period, colonies began to be formed in the counties of Westmorland and Albert, and on the territory along the Gulf of St. Lawrence and Bay of Chaleur. The coming of the Loyalists in 1783 added largely to the population of the Province, and in the following year it was separated from Nova Scotia, when Thomas Carleton was appointed its governor. The first Legislature met in St. John in 1786, but two years afterwards the seat of government was removed to Fredericton, where it has since remained.

The history of New Brunswick since that time has been uneventful, except for the conflicts over responsible government, which was carried on for many years, and which resulted in the province obtaining a constitution as liberal as that of any part of the British Empire. In 1867 New Brunswick became a part of the Canadian Confederation. The population of the province is now over 420,000. About 90,000 of the inhabitants are of French origin, descendants of the Acadians, who settled in the country in 1634. The others are chiefly of British descent.

GOVERNMENT AND SOCIAL CONDITIONS.

The system of government in New Brunswick is based on that of Great Britain, except that there is but one legislative body of forty-eight members, the upper house having been abolished in 1892. Every male resident is a voter, and responsible government prevails to the fullest extent. The Lieutenant-Governor is appointed by the Government of Canada, but all power rests in the Executive Council, which depends for its existence on having a majority in the Legislature. Of the seven members of the Executive Council, six are heads of departments and the other its president. The term of the Legislature is five years, but it may be dissolved at any time by the

Photo, High Commissioner for Canada

ROAD THROUGH A NEW BRUNSWICK FOREST

Photo, High Commissioner for Canada

PAPINEAU FALLS, BATHURST, NEW BRUNSWICK

Lieutenant-Governor. Churches and schools in great numbers are scattered throughout the province—all religions enjoying equal rights, and there is no State Church. An admirable educational system prevails, comprising common, superior and grammar schools, a normal school or training college for teachers, an agricultural school, and a University maintained by the Local Government. There are about 1,700 elementary schools. Education is free, the cost of maintaining the schools being raised by taxation on property and by Government grants.

RAILWAYS.

The Intercolonial Railway (a portion of the Canadian Government system which still retains its old name), connecting New Brunswick with the rest of Canada in the west and with Nova Scotia in the east, comes in from Quebec in the far north, runs along the shore of Chaleur Bay, then cuts south to Moncton in the south-east corner of the province, before passing out into the Nova Scotia peninsula. Another section of this line runs west from Moncton to the commercial capital and great seaport. St. John, whence another line continues west along the shore to St. Stephen, on the St. Croix River, which there forms the boundary between Canadian and United States territory. St. John is also the Atlantic terminus of the Canadian Pacific Railway, which cuts across the State of Maine in order to reach Montreal and the west. The C.P.R. also has a line running north, and serving practically the whole of the St. John River valley. From the mouth of the Miramichi in the north-east, a branch of the Intercolonial railway crosses the heart of the province to Fredericton, the political capital ; and the transcontinental line of the Federal Government, the Grand Trunk Pacific, has to cross the province in another direction, from Moncton in the south-east to the north-west corner on its way to Quebec and the west. The summers in New Brunswick are clear and cool ; the winters cold and bracing, especially in the interior, and free from sudden changes In the growing season there are frequent showers, mostly at night. Sunny days are the rule. In seventeen years the average hours of bright sunshine at Fredericton varied from 94 in November to 238 in July.

INDUSTRIES.

The leading industry in New Brunswick is agriculture, a large proportion of its people being farmers. The Province contains much excellent land, the marshes at the head of the Bay of Fundy, the intervales of the St. John and other large rivers, and the uplands of the northern portion being very fertile. The fruit farmer, too, finds in New Brunswick particularly suitable conditions to hand. Fruit has been grown for a good many years in considerable quantities along the valley of the St. John River, and in portions of the counties of Charlotte, Albert and Westmorland, and the Provincial Government has made every effort to foster the industry by giving information as to the best varieties in the different districts.

Next in importance to agriculture is lumbering. A large portion of the territory is still covered by forests. On the 7,000,000 acres of Crown lands about 200,000,000 superficial feet of lumber is cut annually. The lumber business gives employment to thousands of men. From the very beginning of the history of New Brunswick this industry has been an important one.

The fishing preserves of New Brunswick are important, and the average yearly catch is valued at £1,000,000 ; made up of herrings, £208,000 ; sardines, £158,000 ; lobsters, £69,000 ; salmon, £57,000 ; and bait, £36,000, while the industry employs about 20,000 people. The oyster beds are being improved, and fish hatcheries are expanding.

At the present time extensive development of the oil shales and natural gas areas of Albert County, of the iron mines in Gloucester County, and the coal mines in Queen's County is taking place, and a much greater use of these resources is planned. The province has rich stores of coal, bituminous shale, petroleum, natural gas, lime-stone, gypsum, building-stone, peat and clay, ample and productive forest areas,

FREDERICTON, CAPITAL OF THE PROVINCE OF NEW BRUNSWICK *Photo, C.P. Rly.*
This City is famous for its avenues of fine old trees

PROVINCIAL PARLIAMENT BUILDINGS, FREDERICTON, NEW BRUNSWICK

and extensive fisheries. The enormous water power at Grand Falls and in other parts of the province have already been developed, and this, together with the progressive railway policy, is likely to afford unexcelled opportunities for industrial development.

SCENERY.

The beauty and variety of the scenery of New Brunswick, the comfort and attractiveness of the many seashore and inland resorts, the ease with which these can be reached either by rail or water, the unrivalled facilities for boating and canoeing must continue to make this paradise of the pleasure lover more and more popular.

The St. John River is frequently called the Rhine of America, and is visited by thousands of tourists from the United States during the summer months, who come to reside in the farm houses and boarding establishments on its banks to escape the terrific heat of the larger cities of the States, especially New York and Boston. There are several lines of steamers plying up the St. John River and its tributaries and also on the various lakes, which are largely patronised by visitors. Along the shores of the Kennebecasis, a tributary of the St. John, there are many summer residences, while a yacht club is also one of the attractions of this river.

The Tobique River, a famous salmon stream and a tributary of the St. John, conveys to the mind of the native and tourist a boundless vision of wild and primitive scenery, and is also noted for its game. Another equally famous region, remarkable for its beautiful scenery, for its hunting and fishing opportunities, and for the many pleasures it holds in store for the visitor, whether he be sportsman or nature lover, is the north shore, comprising the counties of Northumberland, Gloucester, and Restigouche. The Restigouche River, in the north of the province, is the world's most famous salmon river, and its other great rivals in New Brunswick are the Nepisiquit, Miramichi, Upsalquitch, and Tobique. It is possible for the sportsman to take his canoe and make a circuit of the province, by doing a little portage from one river to the other in the north-west of the province, as was frequently done by the natives in the past.

One of the most interesting sights at St. John is the Reversing Falls which have no counterpart in the world. The average rise and fall of the tide ranges from 20 to 30 ft. At its mouth the river passes through a gorge, and at low tide has a rapid fall into the harbour of about 15 ft. With each change of the tide the cataract turns so that twice in twenty-four hours there is a fall up-river, and for a short period each day the waters are so smooth that canoes, boats, and craft of all kinds can pass through with safety. Ten miles from St. John is beautiful Loch Lomond, where there is good hotel accommodation and fair trout fishing, while nine miles in another direction is the village of Rothesay, and twelve miles up the St. John River is Westfield and its charming beach.

FREDERICTON.

Fredericton, the capital of New Brunswick, reached either by rail or water, is a beautiful city. According to the records of the days of Villebon, the site of the present city was then occupied by a small Acadian settlement known as St. Anne's Point. It was a favourite Indian camping place as well. The Indians in those days held their house of Assembly about five miles above the town, at Auk-paque, near Currie's Mountain.

The city contains the Parliament Buildings, a handsome freestone structure with granite base ; the University and Provincial Normal School ; and the Church of England Cathedral, one of the purest specimens of Gothic architecture on the continent. It is a centre from which some of the finest fishing and hunting regions are reached. The level streets are all shaded with magnificent trees, principally elms. The literary visitor should not fail to inspect the Legislative Library which contains 16,000 volumes, many of them extremely rare and valuable.

ON THE WAY FROM MONCTON TO HOPEWELL ROCKS

ST. JOHN, NEW BRUNSWICK

THE REVERSING FALLS, ST. JOHN, NEW BRUNSWICK *Photo, C.P. Rly.*

One of the original set of Audubon's Book of Birds is here, valued at 15,000 dollars.

Fredericton has good hotels. Across the river are the towns of Gibson and St. Mary's, and three miles up the Nashwaak stream from Gibson is Marysville, a hive of industry with its cotton and lumber mills. Above Fredericton, on the St. John River, are Woodstock, Florenceville, Hartland, Andover, Perth, Grand Falls, Edmundston and other picturesque places, and a game and fishing country that is famous the whole world over.

The Grand Falls are second only to the great cataract at Niagara, while the wild and rugged gorge is unrivalled. The real beauty and grandeur of this section is not as well known as it deserves. The whole region round about is a sporting paradise, and there are opportunities for canoeing, camping, fishing and shooting that cannot be excelled anywhere. When the snows come winter sports are largely indulged in. The city contains churches of every denomination, several factories and mills, and the workshops of the St. John Valley Railway. (For other cities and towns see *Gazetteer of the Empire.*)

Photo, High Commissioner for Canada

THE BRAS D'OR LAKES, CAPE BRETON, NOVA SCOTIA

Province of Nova Scotia

This, the most easterly Province of the Dominion, forms a peninsula, and lies between 43° and 47° N. lat., and 60° and 67° W long. It is 350 miles in length, and varies in breadth from 30 to 120 miles, comprising an area of about 21,428 square miles. Connecting it with the mainland is an isthmus 13 miles wide. The population numbers over 550,400. This province is most favourably situated geographically ; being bounded on the north by the Northumberland Straits, on the east by the Gulf of St. Lawrence, on the south-east and south by the Atlantic, and on the west by the Bay of Fundy and the Province of New Brunswick (*q.v.*). Elongated in form, it stretches out into the ocean, and its innumerable harbours and bays afford convenient communication, both coastwise

BEAUTIFUL NOVA SCOTIA *Photo, High Commissioner for Canada*
A stream through Antigonish Village

and inland, very few places being more than 20 miles from tidal waters. With so long a seaboard, the access of its ports to the principal markets is exceptionally easy, as is proved by the relative distances, which are as follows :—

Halifax is—

655	miles nearer	Liverpool	than	New York.
1,050	,, ,,	Gibraltar	,,	,,
750	,, ,,	Cape Town	,,	,,
200	,, ,,	Cape Town	,,	Liverpool.

HISTORY.

Great Britain's claim to Nova Scotia was originally based upon the discoveries of the Cabots, but the first settlement was made by the French, in 1605, at Port Royal, now Annapolis Royal. Sir William Alexander, in 1621, received from the King a grant of the Acadian peninsula, with Cape Breton Island, a grant that included what is now New Brunswick (and Gaspé). Sir William, who was a patriotic Scotsman, gave to the land the name of Nova Scotia—now comprising only the peninsula and Cape Breton Island.

From that time onward, for nearly a century, the nations of France and England disputed the ownership of this territory. Each secured possession in turn, through conquest or treaties, until, in 1713, the peninsula was finally ceded to Great Britain by the Treaty of Utrecht. The Island of Cape Breton, however, remained in the possession of France.

In 1745, a New England expedition captured the stronghold of Louisbourg (C.B.I.), which, in 1748, was restored to France. In 1749, an important step was taken by the British Government to strengthen their hold on Nova Scotia. Halifax was founded under Governor Cornwallis, and was made the capital in the place of Annapolis, founded by the French in 1605. Then, in 1745 and 1755, came the capture of Beau Sejour, at the head of Chignecto Bay, by the British, and the expulsion of the Acadians. The year 1758 saw the final fall of Louisbourg (CAPE BRETON ISLAND), and in 1763, the Treaty of Paris confirmed the British in their possession of the whole of Nova Scotia.

The first Representative Assembly in Nova Scotia, and in all Canada, was convened in Halifax in 1758. This formed the *inauguration of Colonial representative government*, and, in order to commemorate this event, a Memorial Tower was erected in Halifax to mark the 150th anniversary of the establishment of Colonial constitutional government.

After the Revolutionary War in the United States, about 20,000 loyalists settled in this region. In 1784 New Brunswick became a separate province. In the same year, Cape Breton Island also became a separate entity, a disunion which lasted until 1820. In 1848, responsible government was granted, and in 1867 the confederation of the four Provinces of Canada was brought about, and Nova Scotia became a part of the Dominion.

SCENERY.

Although Nova Scotia does not possesses any really mountainous land, there are two (principal) ranges of hills averaging from 800 to 1,100 ft. in height, known respectively as the Cobequid Mountains, and the North and South Mountains. The former run from west to east, from Chignecto to Cape St. George, through the counties of Cumberland, Colchester, Pictou and Antigonish. The latter have a north-easterly direction, from Digby Neck to Capes Split and Blomidon, through Annapolis and Kings Counties.

The east and south-east shores on the Atlantic coast are much indented with numerous bays and many excellent harbours, the most important being HALIFAX HARBOUR, which is noted as one of the finest in the world, being sufficiently extensive to accommodate the entire fleet of the principal navies of the world. SYDNEY HARBOUR, Cape Breton, is also one of the most completely land-locked harbours in America, in addition to which there are about forty others. Among

Photo, High Commissioner for Canada

RESIDENCE OF THE LATE LORD STRATHCONA, PICTOU, NOVA SCOTIA the principal and more spacious bays are, on the east: St. Anne's Bay, Mira Bay, Gabarouse Bay, St. Peter's Bay, Chedabucto Bay, Tor Bay, St. Margaret's Bay, and Mahone Bay. On the west lies St. George's Bay, Cobequid Bay, Minas Basin, Annapolis Basin, and St. Mary's Bay; Cobequid Bay extends inland for about sixty miles, and is affected by the tides of the Bay of Fundy, which rise to a height of 60 ft., as compared with 6 ft. on the Atlantic coast. St. George's Bay is in the Northumberland Strait and communicates with the Gut of Canso, which divides Cape Breton from the mainland, and has an outlet in Chedabucto Bay.

The principal rivers are the Shubenacadie, rising in the Grand Lake, draining Hants and Halifax counties, and flowing into the Minas Basin; and the Annapolis, rising in Kings County, with its outlet in Annapolis Bay, draining the valley between the North and South Mountains. The La Have, Mersey, Medway, Shelbourne and Tusket, running to the eastern shore, have their outlet in the Atlantic. They are navigable for coasting vessels, and the Shubenacadie for craft of considerable size. There are numbers of small islands around the coast, especially in the south-east; the most important being Cape Sable Island, Seal and Mud Islands, in the south; and Long Island, to the west. In Northumberland Strait are the islands of Caribou and Pictou; and Madame Island, Scatarie and St. Paul are situated off the coast of Cape Breton. Sable Island, 25 miles long, is 125 miles east of Halifax. The principal capes are, on the north, Cape North, and on the east, Cape Morien, Cape Breton, Cape Canso, Liscomb Point, Pennant Point, and Baccaro Point; and the south, Cape St. Mary; and on the west, Cape George, Cape John, Malagash Point, Cape Chignecto, Cape d'Or, Cape Split, and Cape Blomidon.

The great charm of the scenery of this province lies in the variety of its natural beauty—hills and dales alternating through-

Photo, High Commissioner for Canada

RESIDENCE OF SIR ROBERT BORDEN, LATE PRIME MINISTER OF CANADA, CANNING, NOVA SCOTIA

out the country, intersected by streams and innumerable lakes, which form one of its outstanding attractions. The Bras d'Or salt-water lake in Cape Breton Island consists of a magnificent sheet of water, 50 miles in length, which, together with Little Bras d'Or, practically divides the island into two parts. The largest fresh-water lakes on the mainland are : Rossignol, over 20 miles in length, and Ponhook in Queens County, Ship Harbour Lake and Grand Lake in Halifax County, Fairy Lake in Annapolis, Gaspareau in Kings, and Lake St. Croix in Hants.

A TYPICAL NOVA SCOTIAN FARM *Photo, High Commissioner for Canada*

COAL.

Nova Scotia possesses the only coal deposits at tidal waters on the Atlantic coast of America ; and in this part of Canada only are coal, iron and fluxes found in juxtaposition. This province is most favourably situated geographically in regard to distribution to the world's markets ; it is 581 miles nearer Liverpool than New York ; has water navigation to Montreal, and is much better situated to supply the markets of New England than many of the States in the Union.

The Sydney Coalfield, on the north-eastern shore of Nova Scotia, and in the county of Cape Breton, is of considerable economic importance. Its area of available coal is estimated at 300 square miles. It contains ten coal seams, each of which is from 12 to 3 feet in thickness, besides numerous smaller beds. The coals are highly bituminous and coking ; many of the seams yield coal well adapted for gas making. Numerous certificates show a quality almost equal to the Welsh steam coal. Several of the seams enjoy an enviable reputation as good domestic coal for grate and range purposes.

The Inverness Coalfield is situated on the north-western shore of Nova Scotia, in Inverness County. There are three collieries—at Inverness, Port Hood, and Mabou. Important deposits are known to exist, and have been worked on the surface in a desultory manner at Chimney Corner.

The Pictou Coalfield covers an area of about 35 square miles, and is noted for the unusual thickness of some of the beds. There are sixteen known seams, from 42 to 3 ft. in thickness. The coal is not as bituminous as that from the Sydney district, but is still a good coking coal, except in the case of a few seams. The coal has its chief reputation as a good strong steam coal, adapted for use under all forms of boilers.

The Cumberland Coalfield is not yet explored over its whole extent, but its area has been estimated at 300 square miles. The known seams are from 10 to 3 feet in thickness. The coal is similar in character to that of the Pictou district, and is largely used for steam and domestic purposes.

MISCELLANEOUS COALFIELDS. In Richmond County extensive prospecting work has been carried out on the coal-basin at River Inhabitants. At Kemptown and Debert, in Colchester County, work of an exploratory nature has been carried on intermittently for a number of years. Coal has also been found at Big Marsh, Antigonish county, River John, Pictou county, and at various other places in the province.

GOLD.

The Atlantic shore, from Canso to Yarmouth, is occupied by the auriferous strata. The width of the district varies from 10 to 40 miles, and the area of gold-bearing sedimentary rocks in this portion of the Province is estimated at 3,000 square miles. The Nova Scotia gold is derived entirely from vein workings. The auriferous quartz veins occur in groups, running parallel to one another in a system of anticlinal domes. They have, in some cases, been traced superficially for a distance of over two miles, and pay-shoots in the veins have been followed to a vertical depth of 1,100 ft. The worked veins vary in thickness from 30 ft. to 1 in., and are found interbedded in quartzite and slate. The gold occurs in these veins (principally) in the shape known to miners as coarse gold, and in pockets and strings of various shapes and sizes. It is usually associated with arsenopyrite, pyrite and galena.

The gold ores of Nova Scotia may be classed as free-milling, and most of the value may be extracted from the ore by the stamp-mill alone. The natural conditions for the legitimate prosecution of the gold mining industry are favourable. There is a very small amount of over-burden; timber for supporting excavations and for fuel is plentiful; the rocks in which the gold

Photo, High Commissioner for Canada

AN ORCHARD IN THE FAMOUS ANNAPOLIS VALLEY veins occur are of a nature that require little artificial support ; labour is efficient ; there are abundant water-powers in the vicinity of many of the gold mines ; and transportation facilities are good.

IRON.

Iron ores occur in very many places throughout this Province. Beginning at the western end, we have, first, the red hematites and magnetites of Clementsport and Torbrook, Annapolis county ; representing a range of ferriferous strata, extending from Digby to Windsor, with one interruption, in the shape of the Paradise granite.

Extensive mining operations are being carried on at the present time at Torbrook, in deposits of the interbedded type. Between Windsor and Truro there are numerous deposits of brown hematite, often highly manganiferous. Among the localities may be mentioned Selma, Clifton, and Brookfield. At Londonderry there is an immense vein of ankerite, 30 to 150 ft. wide, holding limonite and specular hematite, and extending for many miles, which has been worked for a number of years. In Pictou county workable deposits of hematite, limonite, specular hematite and spathic and clay iron-stone ores are found in the district extending from Glengarry, on the Intercolonial railway, to Arisaig, on the Gulf shore, where a most important deposit exists.

In Guysboro county several valuable deposits of specular ore have been opened and worked. The ore from one of these mines at Boylston has been satisfactorily used in the blast furnace at Londonderry. In Cape Breton valuable deposits of brown hematite and magnetite are found near Lake Ainslie and near Whycocomagh. Spathic ore occurs on Boularderie Island. Near East Bay a valuable bed of red hematite, 12 to 6 feet wide, has been traced for some distance.

Numerous other deposits of hematite are met at Boisdale, Big Pond, Loch Lomond, Grand Mira, and other points on the island. Deposits of bog iron are known to exist at various places throughout the province, but as yet have received little attention. There are many other localities yielding iron ores which, as yet, have not been thoroughly prospected. Limestone suitable for flux is everywhere met with in the vicinity of the coal and iron districts.

COPPER.

Ores containing copper are found in the province, in rocks of every age. The trap associated with the Trias of the Bay of Fundy yields native copper at many points, among which may be mentioned Cape d'Or, Spencer, Briar, and Five Islands. Chalcocite and carbonate of copper are frequently met in the Upper and Lower Coal measures of Cumberland, Colchester, and Pictou counties. In the vicinity of Lochaber, in Antigonish county, some valuable deposits of chalcopyrite have been proved. At Coxheath, in Cape Breton county, extensive development work has been carried out, on a chalcopyrite deposit. There are other deposits of copper in the vicinity of Gabarus, Cape Breton county ; St. Anne's, Victoria county ; Cheticamp, Inverness county ; and other points in the province.

OTHER MINERALS.

The ore of lead most frequently met here is galena, generally carrying silver, and it occurs in the rocks of all ages, but most abundantly in the Lower Carboniferous limestone, which is met with in almost every county. Gypsum is found in Nova Scotia in immense quantities, associated with anhydrite. It occurs associated with Lower Carboniferous strata in beds frequently 100 ft. in thickness. There are many enormous deposits in various parts of Nova Scotia, which exist on tide water, among the most valuable of which are the ones near Windsor, Hants county ; Amherst, Cumberland county ; Antigonish, Antigonish county ; McKinnon's Harbour, Baddeck, and St. Anne's, Victoria county ; and Cheticamp, Inverness county. Gypsum occurs in large quantities along the shore line of Cape Breton Island ; in the interior, and along the shores of the Bras d'Or Lakes. The conditions are most favourable for the development of an immense industry in the production of gypsum. A small amount of this mineral is locally manufactured into plaster-of-paris, wall plaster and fertiliser, but most of the gypsum mined in the Province at the present time is shipped to the United States in the crude form. Antimony is found at West Gore and Rawdon, in Hants county. The principal deposit is in a vein of the fissure type. This deposit has been extensively worked, and large shipments of ore have been made, extending over a number of years, to Swansea, Wales ; and New York, U.S.A. Tungsten minerals have been found at Moose River, Waverly, Halifax county and elsewhere.

The average annual value of the mineral production of Nova Scotia is about 30 millions of dollars.

CLIMATE.

Situated in the temperate zone, from 3° to 6° nearer the Equator than the most southerly point in Great Britain, Nova Scotia, owing to its being practically surrounded by the sea, possesses a healthy, temperate climate, not subject to extremes of heat or cold. The following table shows the approximate average temperatures Fahrenheit for each month :—

Month	Highest	Highest Average	Lowest	Lowest Average	Average
Jan. -	47.7	26.74	6.7	10.48	18.61
Feb. -	43.8	30.23	11.6	15.52	22.88
Mar. -	50.3	37.68	0.0	22.21	29.94
April -	67.2	47.10	20.3	30.81	38.95
May -	80.4	60.80	29.3	40.70	50.75
June -	87.1	69.15	37.8	47.41	58.28
July -	98.7	76.78	40.4	55.40	66.09
Aug. -	81.7	69.97	43.8	53.81	61.89
Sept. -	75.1	66.91	33.4	45.40	56.15
Oct. -	76.6	58.27	28.3	39.69	48.98
Nov. -	58.8	45.20	19.3	30.25	37.72
Dec. -	56.6	36.71	11.2	25.19	30.95

Recorded hours of sunshine :—

January - - - -	113
February - - - -	170
March - - - -	201
April - - - -	170
May - - - - -	193
June - - - -	228
July - - - - -	323
August - - - -	324
September - - - -	222
October - - - -	118
November - - - -	85
December - - - -	65
	2,212

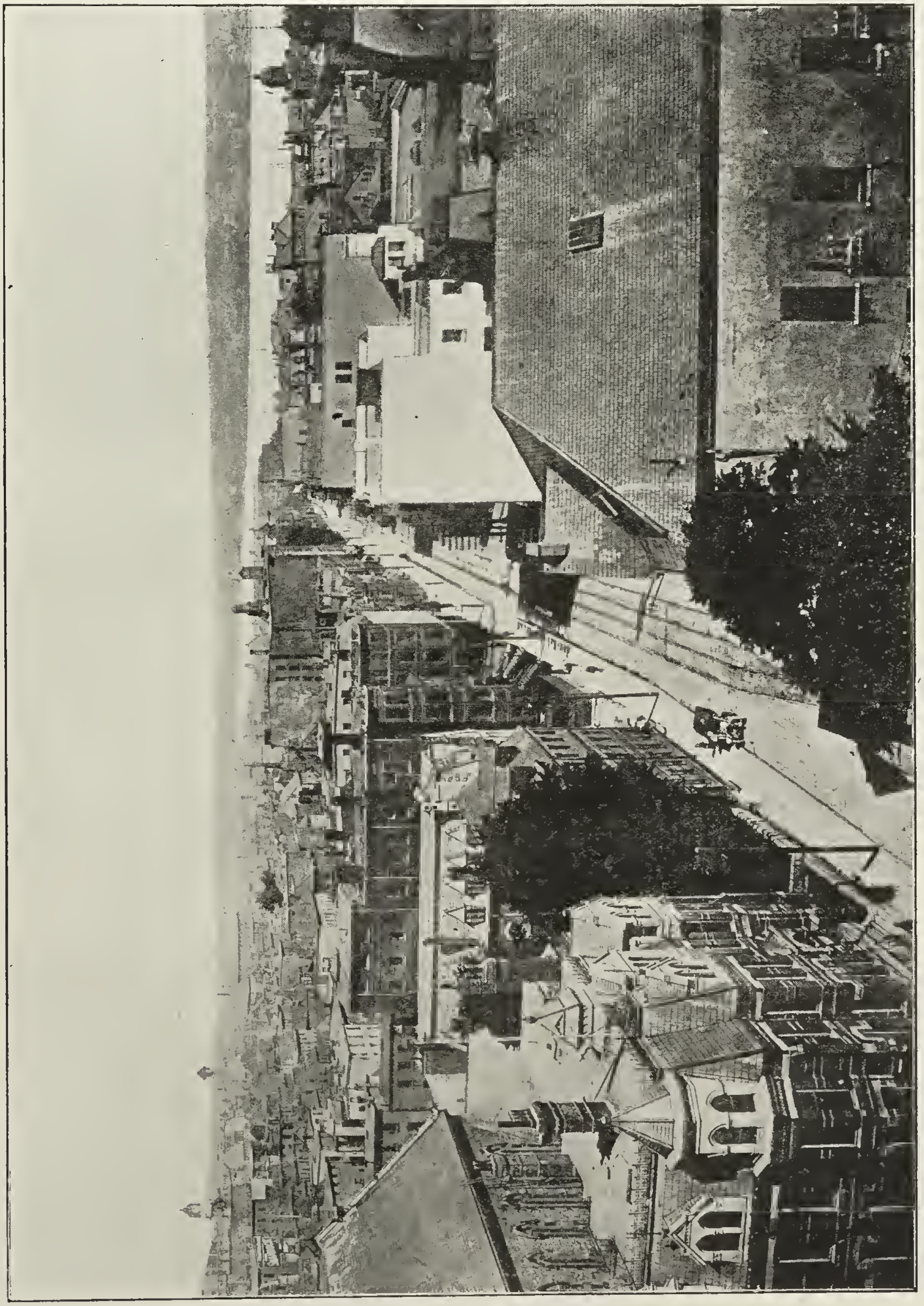
The duration of winter is usually from December to March. The spring is shorter than in Great Britain. Summer and autumn are delightful periods, the latter season being succeeded by the Indian summer, which continues throughout November. The prevailing winds are south-west and north-west. The climate varies in the different counties, the south-eastern ones being some 5° warmer than those in the north and east. At certain periods, fogs prevail on the coast, but they do not extend inland. The precipitation is sufficient for the needs of the country, without being excessive. The approximate rainfall is 37.38 in., snowfall 97.9 in., or rain and snow 47.17 in. The snowfall is an important asset, sheltering plant life from frost, while acting as a fertiliser, and also conserving the moisture in the land, so that no drought is experienced in the summer.

AGRICULTURE.

By reason of its moderate climate and rainfall, all crops which are grown in the temperate zone can be successfully raised and ripened in Nova Scotia. Of the available land area of 13,483,681 acres, about 11,000,000 acres are fit for tillage, 5,200,000 are occupied and 2,000,000 are under crop. This land may be roughly divided into three classes : marsh, or dry, red, meadow land, intervale lands, and uplands. Although agriculture has made great strides of late years, yet, nothwithstanding the increase in this direction, there is still a shortage of production, and heavy importations, amounting to 60 per cent., are made yearly to supply the local consumption.

The extensive tracts of pasture land in Nova Scotia, and the favourable climatic conditions, are ideal for the prosecution of the dairying industry. The number of milch cows is returned as 143,362. The arable and pasture land available and suitable is about 3,500,000 acres, which shows that one cow is kept on every 24 acres. The production of butter and cheese is 354,785 lb. and 264,243 lb. respectively ; made from milk sent to the sixteen creameries established in the province. As Nova Scotia imports 1,365,285 lb. of butter annually to supply the local markets, a large increase in the number of milch cows would be of material benefit to the community. The Province has been favourably compared by experts *to Denmark* as a dairying country, if full advantage was taken of its natural resources in this connection.

In the past, Nova Scotia has depended on the supply of beef from adjacent provinces, nearly 3,000,000 lb. being imported annually.



HALIFAX, NOVA SCOTIA

Photo, High Commissioner for Canada

PUBLIC GARDENS, HALIFAX, NOVA SCOTIA

The total number of cattle in the province is 305,000. Owing to the action of the Government in importing high-class stock for breeding purposes, more attention is now being given to this industry.

Nova Scotia has more than a million acres of rolling, well-watered and well-shaded pasture entirely suitable for sheep. A large percentage of this land is clothed with short, nutritious grass and white clover, on which sheep of the highest quality can be satisfactorily raised. The Scottish Agricultural Commission, after visiting the Province, were impressed with the belief that sheep were the ideal stocking for the farms. Up to the present, however, sheep farming has not been seriously undertaken in this province, the number aggregating but 290,000.

FRUIT GROWING.

Nova Scotia has long been renowned for the quality of its apples. While the principal district for the cultivation of this fruit is the Annapolis Valley, extending for about 100 miles through the counties of Kings and Annapolis, it has been demonstrated by means of experimental orchards, established by the Nova Scotia Government, that apples can be successfully grown on a commercial basis in practically all parts of the province.

The suitability of the soil and climate of Nova Scotia are acknowledged to be ideal for the cultivation of this fruit, while her geographical position in connection with accessibility to the great markets of the world, affords a ready means of distributing her output by means of ocean transport. The varieties grown in this Province are well-known English and European kinds, such as Gravenstein, Ribston, Blenheim, Russets, Kings, Cox's Orange, Bishop Pippin, Baldwin, Mann, and Ben Davis. The approximate output is from 1,000,000 to 2,000,000 barrels, according to the season, and nearly the whole of this quantity is exported to Great Britain and the Continent.

It is estimated that not more than 10 per cent. of the land in the Annapolis Valley which is suitable for fruit growing is yet planted with trees, which, however, already number about 2,000,000 on 70,000 acres. The fruit is gathered during the months of September and October, packed in barrels (120 lb.), stored in frost-proof warehouses and shipped to the various markets at intervals. By this means " glutting " is avoided, and the best prices obtained. There is *Government Inspection* under the Fruit Marks Act before shipment takes place. Strawberries, raspberries, gooseberries, currants, and plums are also largely grown. The local market absorbs practically the whole output, but in the south-west portion of the province, strawberry growers find an advantageous market in Boston, steamers running direct from Yarmouth to that port. Cranberries are cultivated on boggy land unsuitable for other purposes. The industry is an increasing one and shows satisfactory profits.

INDUSTRIES.

The fisheries of Nova Scotia extend for a distance of 5,600 miles round the entire coast line of the Maritime Provinces. Over twenty varieties of fish are found, the principal being cod, lobster, mackerel, haddock, and herring. Salmon and trout also abound. Nearly 32,000 men are employed in this industry, and the approximate yearly value of the catch is £2,500,000 ; about one third of the total amount caught in the Dominion.

A valuable export trade is carried on in dried fish with the West Indies, South America, Spain and Portugal. Over 50 per cent. of the output of fresh and canned lobsters taken in Canada are caught in Nova Scotia. The inland fisheries yield principally smelts, salmon, trout, and large quantities of eels. Some of the finest natural oyster beds are also found on the Nova Scotia coast.

The forest areas extend to 12,000 square miles, or 7,750,000 acres. Taking an average of 3,000 ft. (B.M.) to the acre, the quantity of lumber available can be estimated at 23,250 million feet. The annual cut is 400 million feet ; the principal trees being spruce, fir, hemlock, pine, birch, oak, and maple. The Nova Scotia Government takes effective measures for the protection of the woods against fire. The smaller growths of spruce and fir are very suitable for pit props, as well as for pulp making, and mills have been established for the latter purpose in the western part of this province. Owing to the numerous sources of water-power available in the timber lands, conditions are favourable for the pulp industry.

The remarkable industrial development of the province has been of constant and increasing growth, especially during recent years. This is due to the utilisation of its natural resources, as well as to the ease with which they can be assembled for the purpose of manufacture. At one time principally devoted to farming and fishing, Nova Scotia has about 1,200 industrial establishments, employing 18,000 people, with an average annual output valued at £16,000,000. The chief industrial centres are the Sydneys in Cape Breton, New Glasgow in Pictou, Amherst in Cumberland, Truro in Colchester, and Halifax the Provincial capital. At Sydney is situated the largest steel works in Canada, which are in close proximity to the coal fields.

With the exception of the south-eastern shore, Nova Scotia is practically encircled by railways, with 1,329 miles in operation. There are also 18,000 miles of roads. The general coasting services and the numerous rivers are available for intercommunication between the various towns and villages situated at tidal waters. Telegraph stations are numerous, and few houses are without telephones.

HALIFAX.

The capital of Nova Scotia has a population of over 59,000, and was founded on the 21st June, 1749, having since become one of the principal naval and military stations of Canada. The natural situation of Halifax has assisted in making it one of the most strongly fortified towns in America. It comprises a peninsula, formed by the harbour. Numerous fortifications at the entrances and along the slopes provide adequate protection. Its area is about eight square miles. The harbour frontage now in use extends over three miles, and has a depth of water at the wharves of from 18 to 38 ft. at low tide. The rise and fall of the tide is from 4 to 6 ft. Halifax forms the *winter terminus* of Atlantic steamship lines to

Canada, when all Canadian mails are landed there. There is a considerable trade between this port and the West Indies. It is also the seat of the Local Government, Dalhousie University, Anglican and Roman Catholic Cathedrals, and contains many other fine public buildings, including the Provincial Legislature, Government House, City Hall and Armouries. There is also a large shipyard for the building of ocean-going steamers.

The scenery in and around Halifax is unsurpassed in the Maritime Provinces, and the Public Gardens, containing fourteen acres, are admitted to be as fine as any in Canada. There are unlimited facilities for outdoor sports. An abundance of shooting and fishing can be had. Big game is represented by the moose (some 800 being killed each year), deer, caribou, and bear. Wild geese and ducks abound in the lakes and marshes, and partridges, woodcock, and plover are plentiful. Salmon and trout are numerous in the various rivers and lakes, and, if the right locality is selected, the fisherman is assured of a good bag. Tund, or horse mackerel, frequent the coast waters of Cape Breton, and furnish exciting sport when fished with rod and line—one recently captured weighed 680 lb. Licences for non-residents to hunt big game cost 30 dollars for the season, only one bull moose being allowed to each gun. The Game Laws are simple and afford due protection of game when out of season.

SYDNEY.

The town of next importance is Sydney, which has a population of about 23,000. It is situated on the Intercolonial Railway, and on Sydney Harbour, which is one of the finest and most complete land-locked harbours of the world. The city is placed in the midst of a very large bituminous coal deposit, and mining experts maintain that there are at least 14 billion tons of workable coal available in the surrounding district. Large industries are carried on in the town, the chief being the iron and steel works. Manufactured products can be shipped 2,000 miles into Canada, while, geographically, this port is nearer Europe, Africa, and South America, than any other point on the North American seaboard. Excellent agricultural country surrounds the town.

The Province of Prince Edward Island

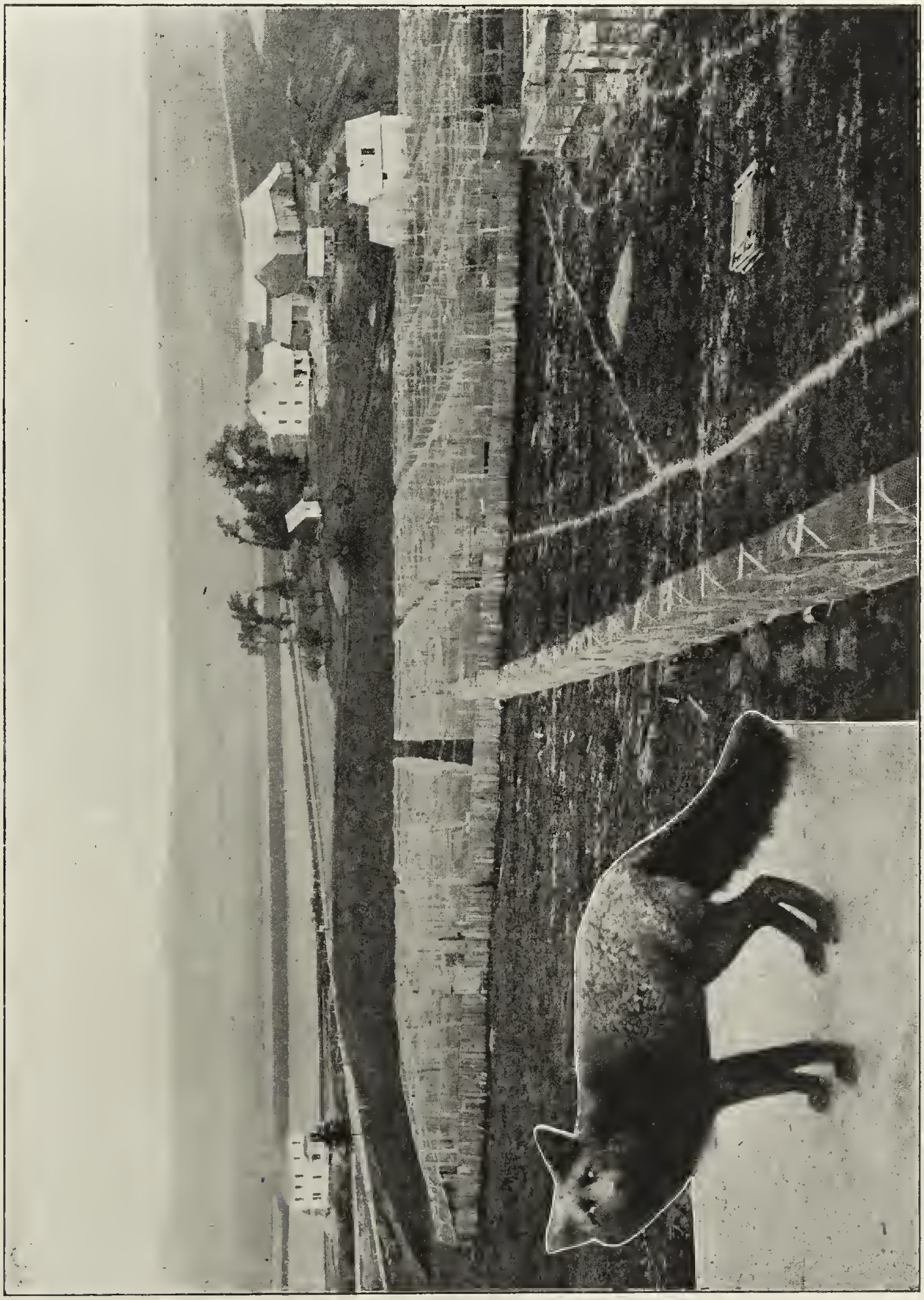
Forming a portion of what is known as Maritime Canada, this island is the smallest Province of the Dominion, and it is also the most densely populated, having about 86,000 people living on its 2,184 square miles of land. The total length of the island is 140 miles, and the breadth varies from 2 to 34 miles. Every part is near the sea, but the sand dunes which encircle the coast prevent the sea from encroaching. At the narrowest point of Northumberland Strait the island is only 9 miles distant from the mainland of New Brunswick ; but it is usually approached by a pleasant steamboat journey of 50 miles from Pictou, in Nova Scotia, to Charlottetown, the island capital.

HISTORY.

The French explorer, Jacques Cartier alighted on the shores of this island as far back as 1534, and was delighted with what he saw ; but no attempt was made to colonise it for nearly 200 years. It became British territory in 1758, on the capture of the adjacent island of Cape Breton by General Wolfe. At that time it was known as the Isle de St. Jean, but in 1799 it received its present name as a compliment to Prince Edward, Duke of Kent, the father of Queen Victoria. Waves of emigration from the old country, reinforced by a certain number of the United Empire Loyalists, formed the ancestry of the present population, of whom about 36,000 are Scots, 22,000 are English and 19,100 Irish. The small number of original French settlers have increased to over 11,000.

The rank of self-governing colony was attained in 1851, and in 1873 the province joined the six-year-old confederation of Canada. It is now represented by four senators and four members in the Dominion Parliament, but all provincial affairs remain in the hands of the islanders, with their provincial legislature sitting at Charlottetown.

Half the members of the legislature are chosen by the electorate as a whole, which includes practically every man on the island ; and the other half by the land owners. The landowners now include a large proportion of the people, but this was not always so. The



A FOX FARM IN EASTERN CANADA (Inset, a Fox)

Photo, Canadian National Rlys.

land question was a burning one in this Emerald Isle of the West, and the flames were extinguished by the same means as were once employed in Ireland—by a grant of £160,000 from the Dominion Authorities, the Provincial Government were able to buy out the absentee landlords and sell the land to their tenants on easy terms.

SCENERY AND CLIMATE.

The island has a curious shape, as the map will show. It is about 140 miles long, but its greatest width is little more than 30 miles, and in two places the distance from south shore to north shore is only a couple of miles. The proximity of the sea to almost every section of the island not only enriches the air, but moderates the summer heat. The climate is extremely healthy for human beings, for their livestock, and for vegetation. The temperature is sometimes low in winter, owing to the ice coming down through the Gulf of St. Lawrence, but not so low as that of the central part of the Dominion. Spring comes late, but the summer is long, bright and genial.

The forest which covered the land in Cartier's time has disappeared, but pleasant groves and coppices of spruce and maple, birch, poplar, and many other trees diversify the landscape. The plentiful though not excessive moisture keeps the landscape green long after the western plains are dry and brown ; the reddish hue of the soil forms a picturesque contrast with the general verdancy ; and late in autumn the trees put on a gorgeous variety of colour—red, yellow, orange, and crimson—till the snow falls, covering the earth with dazzling white and protecting it from the severity of the frost.

Prince Edward Island—often designated "the Garden Province of Canada" owing to the fertility of its soil—also possesses important fisheries, for it lies on the Gulf of St. Lawrence in the midst of the most important deep sea fisheries of the North American continent. Although forming one of the Maritime Provinces of Canada the natural features and conditions differ in several respects from those of the other provinces which go to make up the Dominion, even in contrast with its neighbours, Nova Scotia and New Brunswick. In the first place, Prince Edward Island is more thickly settled than any other province. As practically all the land is under occupation only limited openings exist for new settlers in comparison with the almost endless opportunities offering in most other portions of Canada. There is also an almost entire absence of the rugged stretches of forest and rock so characteristic of Canadian scenery generally, and, thanks to the natural fertility of the soil, this island is the most thoroughly cultivated territory upon the Northern American continent, no less than 85.44 per cent. of its area being occupied by farms and lots, and 80 per cent. of its total population being connected with agriculture in its various forms.

The country, gently undulating from its deeply-indented coast line to the chain of hills which form the highlands, is essentially pastoral in appearance, and the soil is mainly composed of a rich, light sandstone, with occasional clay areas. The redness of the soil at once recalls to the traveller a characteristic feature of Devonshire and other parts of Western England, and, indeed, a drive through the farming districts discloses many points of resemblance to some of the principal agricultural sections of the United Kingdom. In this connection a well-known English agricultural authority has reported : "In some respects this is one of the most beautiful provinces in the Dominion, and it has probably the largest proportion of cultivable land. . . . On the whole, the grassland of the island, and the character of the sward, consisting, as it does, of indigenous clover and a variety of the finer grasses, reminded me strongly of some portions of old England."

One great natural advantage offering to the tiller of the soil is the availability of several natural fertilisers, the more important of which is the "mussel mud" or "oyster mud" found in many bays and river-mouths of the coast. The deposit is many feet thick and practically inexhaustible, and is considered by several well-known scientific authorities as a fertiliser of the highest practical value. This mud costs the farmer only about 5d. or 6d. a load, and is a source of great wealth to the island. Other fertilisers readily obtainable are furnished by the peat and marsh mud, seaweed, fish offal and limestone, which also exists in large quantities locally.

AGRICULTURE.

Mixed farming is generally carried on, and of crops the chief grown are hay, oats, potatoes and wheat, but corn for fodder, numerous roots and a large variety of vegetables are also raised successfully. Years ago, when the efforts of the farmer were mainly directed to the growing of crops, or what is known as " extensive " farming, a large proportion, particularly of the potatoes and oats raised, was exported, but during the past decade a gradual and far-reaching transformation has taken place, and the greater attention given now to dairying and livestock raising has led to the almost general adoption of " intensive " methods. Considerable supplies of hay, potatoes and other crops, are still shipped away, and the development of the important mining district in Sydney, Nova Scotia, has provided an additional and profitable neighbouring market, but cheese, butter, beef, bacon and other finished products now form the leading articles sold, to the joint benefit of the farmer and also of the soil, which was being impoverished under the old system.

Possibly the chief factor in this progress has been the development of the dairy industry, which now forms a most important asset of wealth to the province, and in this, as in many other improvements, the farmers owe much to the assistance of both the Dominion and Provincial Departments of Agriculture. Co-operative dairying was first begun in 1891, when, under the supervision of the Dominion Dairy Commissioner, an experimental station was established for the manufacture of cheese. The success of this step resulted in the erection of a number of factories, all conducted upon co-operative principles, until at the present time there are cheese factories and also creameries in all the principal centres of the island, and the production of cheese of the highest quality has become one of its most important industries, while the manufacture of butter is also conducted upon a large scale. A number of factories make butter during the winter months and cheese in the summer.

Coincident with this movement, additional attention has been given to the question of stock-raising. Reference has already been made to the excellence of the natural pasturage available on the island, which has long been famous for its horses, the quality of which is maintained by the constant importation of new blood. Good breeds of cattle, sheep and swine have also been introduced with favourable results; and cattle-raising and fattening is now carried on profitably by most of the farmers. Considerable supplies of dressed carcases and also of beef, pork and bacon are shipped to neighbouring markets. Poultry-raising is also almost universal, and there is a very large production of eggs, many of which are exported.

Another branch which has recently shown great increases is fruit-growing, and although the industry is still largely in its infancy, conditions have been proved to be eminently suitable for the cultivation of a number of varieties of apples. Cherries and plums also flourish, and the province has long enjoyed a good reputation for strawberries, while large quantities of cranberries and blueberries grow wild and are a considerable source of profit. Indeed, for a self-contained and consequently conservative community there has been a welcome readiness to adopt modern scientific methods, in which connection the Experimental Farm at Charlottetown carries on invaluable work, and it has latterly become the custom for a considerable number of farmers' sons to follow a course at the Agricultural College at Truro, Nova Scotia, which is only a short distance away. All the same, it would be idle to deny that Prince Edward Island has stood still as regards population, while the epoch-making invasion of Western Canada by new settlers from all parts of the world has been going on. Indeed, the Province, in common with practically all Eastern Canada, has been considerably affected by the " lure of the West," and a number of its young men have migrated to the prairies to take up free Government land—often in preference to sharing farms in their own province—while others have been attracted by the more active conditions prevailing in the large cities and industrial centres on the continent, with the greater opportunities offering for personal advancement than are possible in a purely agricultural community.

For these natural reasons a certain number of improved farms come into the market from time to time, but, whereas the island could advantageously support a population twice as large as it now possesses, under existing conditions the only type of immigrants which the Government makes special efforts to attract are persons owning sufficient capital to purchase and work improved farms, in which connection the possession of a minimum capital of from £500 to £1,000 is suggested. There are also favourable opportunities for experienced farm labourers, and, as elsewhere in Canada, an unfailing demand for female domestic servants.

For many years the provincial authorities took no special steps to attract immigrants, but a few years ago, in consequence of the circumstances alluded to, they despatched an expert delegate to the United Kingdom in order to place the advantages offering in Prince Edward Island before the class of settler desired. This delegate visited many of the principal agricultural districts of Great Britain, and, as a result of personal interviews with farmers, took out two parties consisting of farmers and farm labourers who, supplemented by others who went out independently, have settled in the island. Arrangements were in all cases made by the provincial authorities to receive the newcomers, and to afford them opportunities for inspecting such farms as were vacant. In most cases the farmers in due course took up farms, and, according to reports, were well pleased, and in some cases enthusiastic, over their new surroundings, and also their prospects. According to official returns compiled, the average size of the Prince Edward Island farm is about 90.74 acres, of which two-thirds consist of improved land. The total value of the field crops averages about £3,500,000 a year. Improved farms can be purchased for £5 to £10 an acre including house and buildings. There are about 32,000 horses, 120,000 cattle, 90,000 sheep, 49,000 pigs, and 800,000 poultry on the island.

What is comparatively a new industry in the whole of Canada has its centre in Prince Edward Island. This is fur farming. There are 3,300 fur farms in the Dominion, and of these over 400 are situated in this one island. On the majority of these curious little ranches foxes are the animals bred, but there are also mink, marten, skunk, racoon, beaver, muskrat, and karakul sheep being reared in captivity. The total number of animals on these farms is 63,000. The total value of the pelts and live animals sold averages about five million dollars a year.

INDUSTRIES.

The second most important natural resource of the province is its rich fisheries, which find employment for the majority of labour not engaged in the pursuit of agriculture. The island, situated in the Gulf of St. Lawrence, lies in the midst of the most important deep sea fisheries of North America, and cod, haddock, ling, mackerel and herring are caught in large quantities off its shores. The fish, however, for which Prince Edward Island is most celebrated are its lobsters and oysters, the latter of which have for many years enjoyed an almost unique reputation, with the result that the demand has long outrun the available supply. Lobster-packing is carried on extensively also along the coast, and the gradual adoption of more scientific methods of culture and preservation, which are now receiving attention, will greatly add to the prosperity of the inhabitants. The yield of the provincial fisheries comes to more than £230,600 in the year, and lobsters provide nearly two-thirds of this total, while oysters come second. The Malpeque oyster of Prince Edward Island is famous for its delicacy. The salting and packing of fish, and still more the packing of lobsters in about 200 canneries, give employment to a large number of men on shore.

At present there are comparatively few important industrial establishments apart from those associated with dairying, and fish-curing and packing. Sawmills, furniture and carriage factories, and similar establishments devoted to the domestic requirements of the population, are found, however, in many places, and there is a large pork-packing plant at Charlottetown. A considerable amount of business, moreover, is carried out on the island, where there are several large merchant firms and a number of houses engaged in the export shipping trade. The total value of the manufactures averages about £900,000 a year.

COMMUNICATIONS.

As regards means of transportation, the Prince Edward Island Railway, a branch of the Intercolonial line and operated by the Canadian Government, extends right across from east to west of the province, and also includes a number of branch lines which are being added to, and which bring various points on the coast into connection with the main system. During the season of navigation, two regular lines of steamers maintain a daily connection with the mainland, one between Charlottetown and Pictou (Nova Scotia); the other between Summerside and Point du Chien (New Brunswick). Freight and passenger steamers also connect weekly with Montreal, Halifax, Newfoundland, Boston, and other points, and a number of small vessels carry on a coasting trade. In winter the situation is much less satisfactory, because, although special ice-breaking vessels maintain a fairly regular service, in certain seasons there are great natural difficulties to be contended with.

CHARLOTTETOWN.

There is just one *city* in the island—Charlottetown—named after George IV's daughter, whose early death left Princess Victoria heir to the throne. The city is well placed on a bay in the centre of the south shore, and combines the advantages of city life with the greater advantages of fresh air, fresh water, and general healthfulness. The old State Parliament House and other public buildings stand in a beautiful square; the streets of the city are wide. A considerable proportion of the 12,000 inhabitants are employed in industrial establishments, such as the gas and electric light works, boot, tobacco, and condensed milk factories, flour mills and machine shops.

There is one other town of importance, Summerside, further west, with a population of about 3,000. Georgetown, on the east coast, is a quiet little town with about 800 inhabitants; and the numerous villages, though not large, are well supplied with stores. The island has become a favourite summer resort in recent years, as its splendid sand beaches and pretty scenery, combined with an equable climate, make it a most attractive spot for holiday-making. Nova Scotia and New Brunswick annually receive very large numbers of tourists and visitors from the United States, who come to obtain a welcome relief from the overpowering heat of many of their great cities, and also to participate in the excellent sport and amusements offering, and although some of these find their way to Prince Edward Island, the removal of past delays and inconveniences should result in a large increase in tourist traffic to the province.

Photo, High Commissioner for Canada

THE INSHORE FISHING FLEET OFF THE GASPÉ COAST, PRINCE EDWARD ISLAND

Province of Quebec

This is now the largest province in the Dominion of Canada, having a total area of 594,434 square miles, of which 571,004 are land and 23,430 water. It is bounded on the south by New Brunswick and the United States, on the west by Ontario, north by Hudson Straits, and on the east by Labrador and the Gulf of St. Lawrence. The province includes the islands of Anticosti and Orleans, the Bird Islands, and the Magdalen Islands in the Gulf of St. Lawrence. The boundary between Quebec and Ontario starts from Point au Baudet on the St. Lawrence, following the Ottawa River to Lake Temiscaming, and thereafter a due north line to Hudson Bay. From the Straits of Belle Isle (which separate Canada from Newfoundland), to Lake Temiscaming, is a distance of 1,350 miles. The River St. Lawrence flows towards the south of the province, there being only about 50,000 square miles of territory to the south of the river. Topographically there are three main divisions, namely (1) the Laurentian Plateau or Highlands, (2) the valley of the St. Lawrence, and (3) the mountainous Notre Dame country to the south.

(1) The Laurentian Highlands form a plateau elevated about 1,000 to 2,000 ft. above the sea, rising at the eastern extremity to altitudes approaching 6,000 ft. and falling towards the north to under 1,000 ft. above sea-level. This plateau is densely wooded, and contains numerous lakes of various sizes, from which issue the streams that in turn supply the giant rivers of the province.

(2) The valley of the St. Lawrence is that portion of the province lying to the west of the city of Quebec, and extending along the river. The land in this division is extremely fertile, and constitutes the portion first inhabited by settlers, being still the most thickly populated area in Canada.

(3) The Notre Dame Mountains form the northern extension of the Appalachian mountain system, which practically follows the course of the St. Lawrence River to the end of Gaspé peninsula. The major portion of this division is also densely wooded, but it contains the country known as the " Eastern Townships," which include excellent farming and pasture lands, and many beautiful lakes and rivers.

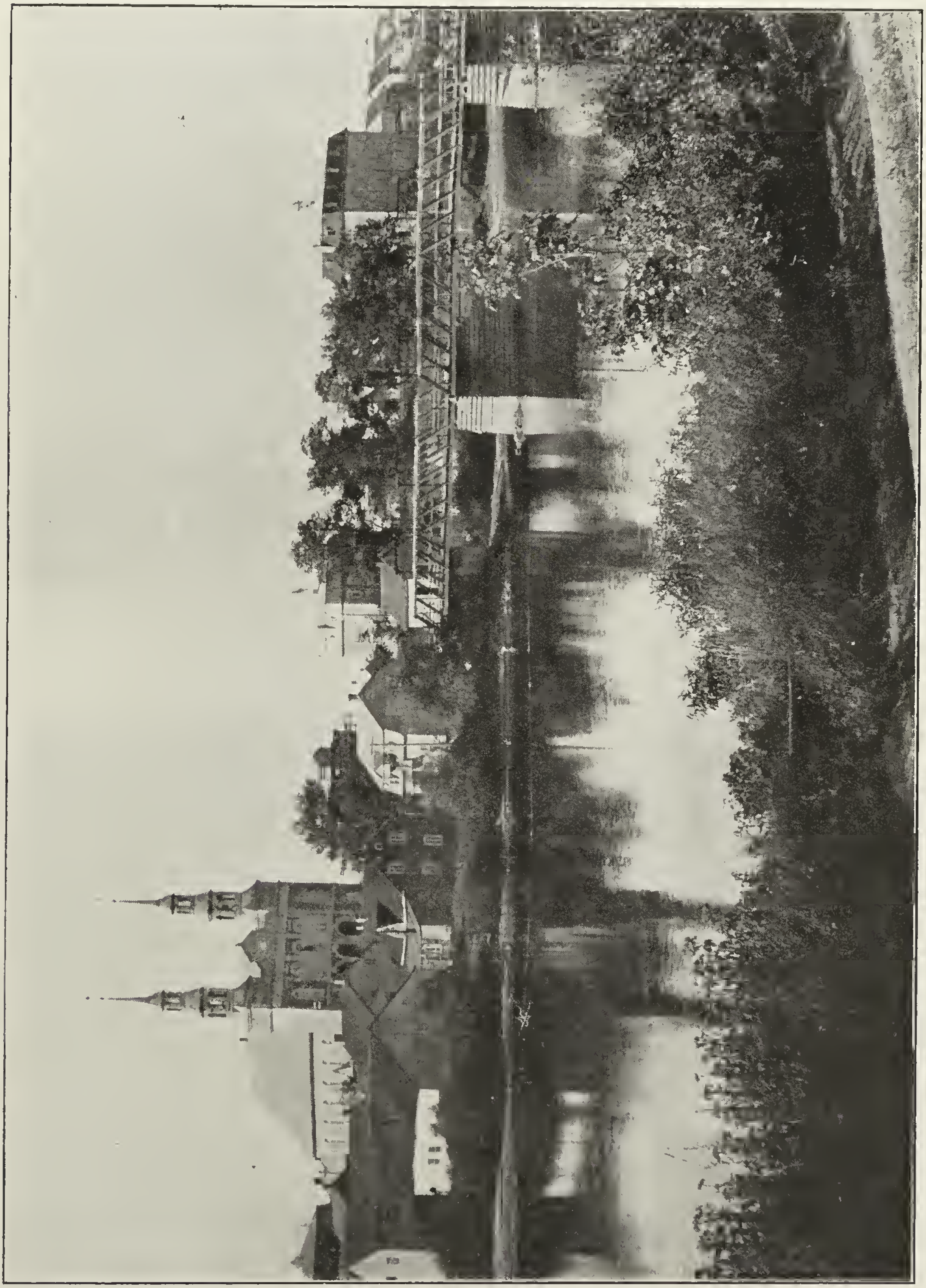
HISTORY.

On 3rd July, 1608, Samuel de Champlain landed from his little ship, *The Gift of God*, and founded Quebec. The colony thus started was still very small when, in 1629, its garrison of ten men surrendered to an English fleet. King Charles I, having no notion of the value of the conquest, returned it to the King of France, by whom it was held for another 130 years. The earliest colonists were principally farmers, who with great labour cleared the forests and made it an agricultural country ; and the remainder were traders tempted to cross the Atlantic by the rich fur trade with the Indians. In 1642, about two hundred miles further up the river, was founded a second settlement, Ville Marie, which is now Montreal, the maritime and commercial metropolis of the Dominion.

The French Canadians had been so entirely deprived of their political rights, being ruled by officials sent out from France, and under a system of feudal seigneurs, that the subsequent change to British rule did not affect them much. Moreover, the British Government wisely guaranteed that their religious rights and civil laws should be preserved. Thus it came about that in the rebellion of the New England Colonies in 1775, the French Canadians joined hands with the British troops to repel the American invasion, while in 1812 the American army was again driven back by the efforts of British soldiers and French Canadians, who, also, supplied whole regiments of the Canadian army for service with the Allies in the Great War of 1914-18 (*q.v.*).

In 1840, a series of revolts ended in the granting of a form of self-government, and a Parliament was set up in Montreal to govern Upper and Lower Canada. Owing to certain difficulties between the English-speaking and French-speaking population, this one Parliament was not entirely a success, and in 1867 a division was made and separate Legislatures formed for Ontario and Quebec to deal with local matters, while a Federal Parliament was established to deal with affairs common to each, and also to Nova Scotia and New Brunswick ; and so was born the great political federation known as the Dominion of Canada.

The government of the province is vested in a Lieutenant-Governor and a Legislative Council, consisting of twenty-four members appointed for life, and a Legislative Assembly of eighty-one members elected for five years to represent the same number of electoral districts in the Province, and sixty-five members in the House of Commons at Ottawa, and twenty-four members in the Senate. Either French or English may be used in addressing either " House " in the Provincial



A TYPICAL FRENCH-CANADIAN TOWN

St. Stanastas on the St. Lawrence River, Quebec

Photo, Canadian National Rlys.

Parliament, and all Government reports are printed in both languages. The Municipalities have large powers of local government.

The population has been steadily increasing for many years. At the census of 1911 it stood at 2,003,232; by 1921 it had increased to 2,361,199, and in 1929 it reached about 2,690,400. The sexes are about equal in number, and there are over 2,000,000 of French nationality or descent compared with about 700,000 of English, Scottish or Irish parentage. The Roman Catholic religion has over 2,100,000 adherents, with the Church of England, Presbyterians, Methodists and Jews (37,000) in the order given. About 98 per cent. of the population are Canadian born, and over 80 per cent. of these are the French Canadians who, true to their ancestral instincts, remain close to the place of their birth. The census gives the number of persons per family throughout Quebec to be 5.5, the highest number in the Dominion, and while this is the average number the French-Canadians are so prolific that families of twelve and even eighteen are not uncommon. The English-speaking population is more or less confined to the towns, and of the original inhabitants ten thousand Indians remain chiefly on the reserves.

MINERALS.

The Laurentian plateau region covers a total area of about two million square miles surrounding the Hudson Bay in the shape of a horse shoe. Noted for timber, it is also important from a mineral standpoint, and contains the valuable deposits found towards the west in the vicinity of Lake Temiscaming.

No coal occurs in the Province of Quebec. The great intercalations of volcanic rocks, however, contain valuable mineral deposits, including gold, copper, asbestos, and chromic iron ore, together with serpentine marble, and roofing slates. The asbestos deposits are the most extensive and productive in the world. The "Potsdam" sandstone, occurring near the junction of the Ottawa and St. Lawrence Rivers, is largely used for building purposes. The average annual mineral production of this Province is valued at £7,500,000.

INDUSTRIES.

One of the most important industries of this province is lumbering, and the forests of Quebec form one of the most valuable assets of the Dominion. To the north are pine, spruce, and fir, while towards the south the maple, spruce, lime and poplar flourish, and are extensively used in the manufacture of wood pulp for paper. The Forestry Branch estimate that the area of commercial timber is over 130 million acres.

Out of the total forest reserves throughout the Dominion of 139,068,480 acres (already roughly surveyed) 111,400,320 are in Quebec. Licences to cut timber have already been issued covering an area of 45,000,000 acres. Great care is now taken to prevent forest fires owing to the rapidity with which the forests in the more accessible parts are being denuded. The wood pulp industry has assumed considerable importance. The value of the "newsprint" produced averages about £16,000,000 a year.

Agriculture is also an important industry of this province. Statistics show that from the three principal sources, hay, oats, and potato crops, there is an annual yield with a value of £45,000,000. Dairying is becoming increasingly important, the annual average value of the products being about £5,150,000. Cheese and butter from the Eastern Townships are renowned—and a typical farm is about 250 acres.

Tobacco is extensively grown by the French-Canadian farmer, and not only do cultivated fruits abound and prosper, but there is also an abundance of wild fruit of all descriptions. The district around Montreal is famed for its melons and "Fameuse" apples, and the Isle of Orleans, below Quebec, for its delicious plums.

The College of Agriculture, situated at Ste. Anne de Bellevue, and forming part of McGill University, was built by Sir William Macdonald at a cost of over £1,000,000, and presented by him to the University. It is supposed to be the finest agricultural college in the world.

There are about 10 million acres of arable land. The area subdivided for the purpose of settlement and remaining unsold in 1923 was 6,145,000 acres. Unimproved land can be purchased from the Government at from 20 to 60 cents. per acre, payable by five annual instalments. Improved land near the Eastern Townships sells at from £3 to £6 an acre, including house and farm buildings. Fur-farming is a developing industry, and by reason of the high price of fur the raising of mink, skunk, and musk-rat are important, while the breeding of silver-black foxes has also been successful.

There are, approximately, 7,200 industrial establishments in the province, having a capital of £275,000,000, and employing 200,000 persons. The total annual average value of the manufactured products amounts to £198,000,000. The principal manufacturing centres are: Montreal (£100,000,000), Quebec, Three Rivers, Shawinigan, Sherbrook, Valleyfield and Hull. The total figures given above include the cut timber and the products of the pulp mills.

As far as can be ascertained from the data already collected, the water-powers of Quebec give an available minimum flow development of 13,673,120 horse-power, the development in operation being altogether about 300,153 horse-power, which is utilised in the production of electric energy, the working of pulp and paper mills, and for other industries. The chief falls where power is available are on the Rupert, Nottaway, and Eastmain Rivers, and those in the Abitibi and Lake St. John districts, together with the Shawinigan Falls in the vicinity of Three Rivers.

TRANSPORTATION.

In the matter of transportation Quebec is very fortunate in having the benefit of the great River St. Lawrence. By this means ocean liners reach Quebec and Montreal, the latter city being thus brought three hundred miles nearer to England than is New York. In 1923 there were completed and in operation 4,600 miles of steam and 250 miles of electric rail track, and express companies were operating over a mileage of 8,650. This has since been considerably increased, and the railway mileage of the Dominion in 1930 will be found elsewhere. Many of the tributaries of the St. Lawrence are navigable for many miles, affording the cheapest means of transportation for the produce of the land, facilitating easy logging and cheap carriage, and in many instances are potent power-producers.

Quebec and Montreal form the two provincial Canadian ports for Atlantic steamers in the summer months, and Quebec is the terminus of five main railway systems.

At Montreal a large percentage of the produce from the western and central provinces, as well as a quantity from the United States, is shipped to Europe and all parts of the earth. From Montreal the first series of canals commence, which connect the St. Lawrence with the Great Lakes in Central Canada, and which make a continual waterway from the head of the Lake Superior to the Atlantic Ocean.

SCENERY AND SPORT.

The scenery all along the St. Lawrence River and its many tributaries is exceedingly fine. Thickly wooded on either side, with

ICE HOCKEY

Photo, Canadian National Rlys

here and there a small fishing village or a Marconi station, it offers one of the most delightful sails imaginable. Nor are the beauties of nature confined to this waterway, for the inland lakes and streams, abounding with fish, have also much foliage and forests about them, wherein dwell the moose, caribou, grizzly bear and deer, which make the big game shooting among the best in the world.

The places where big game are usually plentiful are the districts surrounding Lake St. John, L'Islet, Rimouski, Bonaventure, Gaspé, Temmiscouata, and the St. Maurice district, as well as the north and west, near the lakes of Temiscaming and Abitibi. In the far north of the province the polar bear is to be met with, while at many places the interesting little beaver is to be found. Smaller game, such as duck and partridge are numerous, and the fishing waters are scattered throughout the province, favourite haunts being Lake St. John, Lake Edward, Lake Champlain, the Richelieu River, and Ste. Anne de Bellevue. The seasons are as follows :—

Salmon - -	2nd Feb.	to	14th Aug.
Ouananiche -	1st Dec.	,,	30th Sept.
Speckled Trout -	1st May	,,	30th Sept.
Large Grey Trout -	2nd Dec.	,,	14th Oct.
Pike and Perch -	16th May	,,	14th April
Bass - -	16th June	,,	31st March
Maskinonge and Whitefish -	15th June	,,	14th April

Among the valuable assets are the fisheries, giving an annual average yield equivalent to £600,000. The climate is variable. In winter it is generally cold with a clear bracing atmosphere, snow lying on the ground from the end of November to April, and affording good sleighing, tobogganning, ski-ing, skating and snow-shoeing. The summer is warm and pleasant, extreme heat reaching 90° Fahr. In winter the thermometer sometimes registers far below Zero, but the coldest days are usually the finest. The normal percentage of bright sunshine is 41 per cent. at Montreal and 39 per cent. at Quebec —a considerably higher average than that of Northern Europe.

QUEBEC.

Quebec, the " Rock City," is the Gibraltar of North America. Situated on the north bank of the St. Lawrence River, at its junction with the St. Charles, about 300 miles from the Gulf of St. Lawrence and 180 miles north-east of Montreal, in 71° 12′ 19.5″ W., and 46° 48′ 17.3″ N., it is the seat of the Provincial Government.

Founded by Samuel de Champlain in 1608, it has guarded the River St. Lawrence for over four centuries, and contains not only the manifold improvements of the present day, but also many of the aspects of a former age. Among the principal features forming the attractions of the city are the Citadel, the Dufferin Terrace, the Grand Battery, the Laval University, the Holy Trinity Cathedral, the Notre Dame des Victoires, the Hospital, the Basilica, and the Haute Ville.

On the spot where once stood the Old Fort St. Louis now stands the majestic " Château Frontenac " Hotel, replete in every modern requirement. The Parliament Buildings are most impressive, and contain the two Houses of the Provincial Legislature and all the different departments in connection with the Civil Service. The buildings are in the form of a complete square, having each side 300 feet long, and they were erected at a cost of £420,000. The bronzes of prominent soldiers and statesmen are particularly fine.

The origin of the name of " Quebec " is somewhat obscure, but apparently it is derived from the Algonquin word for " a strait or narrowing," which is found in the river at this point. The winding roads are cut out of the solid rock, with flights of steps, leading from the lower to the upper part of the town, and except for a few instances, follow the original plan. The highest point, Cape Diamond, rises to 350 ft. above the river, and is crowned with the " citadel," which, with the city walls, was erected in 1823–1832 under the direction of the " Iron Duke " of Wellington. Thus it claims the distinction of being the only walled city of North America.

The harbour is spacious, and capable of holding the largest ocean-going liners. Most of the better-class dwelling-houses, public buildings and churches are situated in the upper part of the city. To the west are the suburbs of St. John and St. Roch, while further to the south-west stretch the historic " Plains of Abraham." A monument marks the spot where General Wolfe fell on 13th

September, 1759, in his hour of victory. He lived to hear the cry, "They run, they run," and expired with the words, "Now God be praised; I will die in peace." The picturesque old gates have been replaced by arches in keeping with the walls, but the Martello towers still stand overlooking the Plains of Abraham.

Quebec has nine parish churches belonging to the Roman Catholics, four others in charge of chaplains, and thirteen chapels attached to religious communities. There is also an English cathedral and six churches, and Presbyterians, Methodists, Baptists, and Jews have each their places of worship. The first parish church, Notre Dame de la Recouvrance, was erected in 1633, but destroyed by fire in 1640. In the Governor's garden, overlooking the river, stands the monument erected to the memory of Wolfe and Montcalm, and bearing on the base this inscription—

MORTEM VIRTUS COMMUNEM
FAMAM HISTORIA
MONUMENTUM POSTERITAS
DEDIT.

It is of plain granite, and the only instance on the continent of a monument erected to the memory of rival generals—victor and vanquished.

Laval University, deriving its name from François de Montmorency Laval, first Bishop of Quebec and founder of the Seminary in 1663 for training priests, is under Roman Catholic control. It received a royal charter of institution from Queen Victoria in 1852, and a charter from Pope Pius IX in 1876. Some of the paintings in the University are among the most valuable in Canada, and there are faculties of theology, law, medicine, and arts; a library of 150,000 volumes, picture gallery and museum. There are monuments to the brave French who fell in trying to recapture Quebec in 1760, side by side with those in memory of the English, constituting probably the most eloquent testimony of the present harmony which exists between the two races, who, though they preserve their own laws, habits, religion and language, maintain the most cordial relations. The population is just over 100,000.

WINTER SPORT IN THE QUEBEC PROVINCE *Photo, Canadian Northern Rlys.*

SOUS LE CAP STREET, LOWER TOWN, QUEBEC *Photo, Grand Trunk Rly.*

MONTREAL.

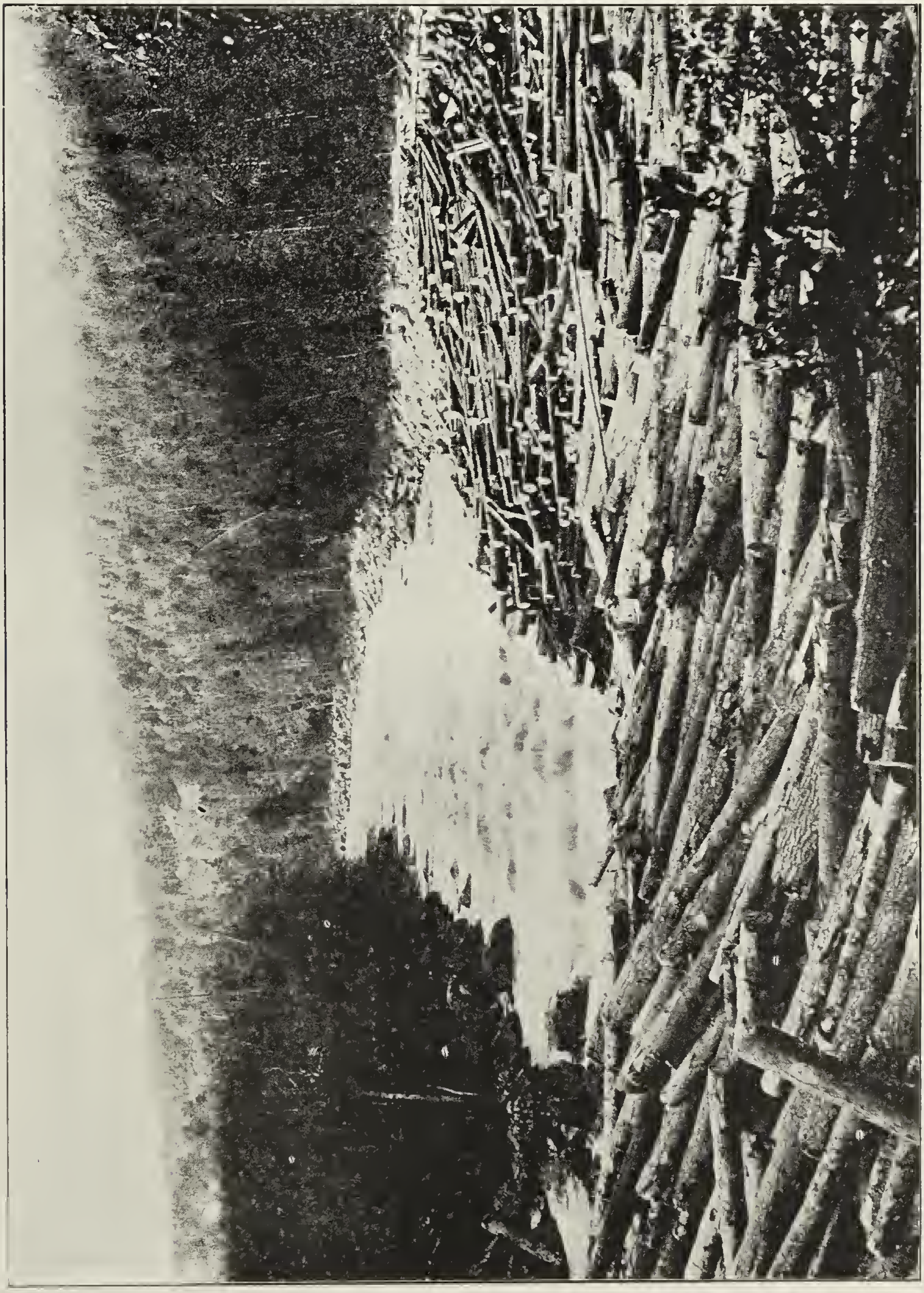
Although Montreal is the largest city in Canada, and the commercial metropolis of the country, it holds no special civic position, not even that of Provincial Capital. Its recompense, however, lies in its great maritime, industrial and commercial activity. It has a population, including suburbs, of about 700,000, and its property is assessed at just over 700,000,000 dollars.

Montreal is the summer terminus of nearly all the transatlantic liners, and is also connected with the wonderful system of inland waterways afforded by the St. Lawrence River, its many tributaries, and the Great Lakes. There are seven miles of deep-water quays and anchorages. The shipping using this great port each year has an average tonnage of 4,200,000 (entered and cleared). The volume of trade is valued at £150,000,000 per annum.

Although this fine Canadian city is fully described in the *Gazetteer of Cities and Towns of the Empire*—in which section of this Encyclopedia all those cities and towns which are of commercial rather than political importance are treated,—no survey of Canada, either past or present, would be complete without mention of its historic maritime and industrial centre.

Montreal stands on the south side of an island at the head of ocean navigation and the beginning of inland water transport on the St. Lawrence River. In addition to being one of the largest and busiest cities on the American continent, it is also one of the oldest. When Jacques Cartier, one bright October morning in the year 1535, first visited the site on which the city stands, he found it occupied by an Indian encampment.

" It held some fifty lodges, three ringed with pointed palisades, its one port piked and guarded to shut out other savages." Five years later Cartier again visited the island, but it was the landing of Samuel



A LOG JAM ON A QUEBEC RIVER

Photo, C.P. Rly.

DUFFERIN TERRACE, QUEBEC, FROM THE CITADEL *Photo, C.P. Rly.*

de Champlain, in 1611, which marked the real beginning of Montreal.

The shrewd Champlain was quick to recognise in the Royal Island the gateway to the wilderness beyond. Travel in those days was almost entirely by canoe, and here, at the confluence of the Ottawa with the St. Lawrence, he could intercept the trappers as they dropped down stream, and carry on a valuable trade with them.

An incident in the conquest of the Iroquois country which surrounded the early settlement will serve to show the difficulties and dangers which beset the pioneers.

" In 1661 Governor Maisonneuve, having learned that the Iroquois contemplated a concerted attack for the purpose of wiping out the white settlement, organised a military fraternity known as ' Soldiers of the Holy Family of Jesus, Mary and Joseph,' who were charged with the defence of the island. Adam Dollard, a young French officer, eager for an opportunity to distinguish himself and make his people forget a certain scandal he had left as a legacy, took sixteen equally adventurous companions and stationed his little company in an abandoned fort on the banks of the Ottawa, down which the enemy was expected to descend to the slaughter.

" The first canoe party was surprised and slain by the seventeen soldiers in the frail fort. Then came an avalanche of Indians, the whole fighting force of the Iroquois. Panting for revenge and thirsting for the blood of the pale-face foe, they fought furiously, but the besieged soldiers, seeing only death in the end, fought as doggedly, defending the fort against the entire army of Indians.

" Fighting, the loss of blood, the smell of powder, together with the consuming excitement of the slaughter, makes men thirsty, and soon the defenders found themselves face to face with famine.

" Now the Iroquois sent couriers to the Mohawks at the mouth of the Richelieu River, and these came down half a thousand strong. Some forty or fifty friendly Indians who had entered the palisades with Dollard deserted him now. And still the French fought on, singing and praying and crossing themselves, against odds of fifty to one.

"The end was hastened by the premature explosion of a bomb, built by the defenders to be hurled in the face of the foe who were now rushing the fort. The confusion that followed enabled the enemy to enter, when one after another the soldiers were silenced, only four or five being saved for the fiendish festivities that always followed a fight.

"And so they died, Dollard and his companions, but they saved the settlement, for the Iroquois were not over anxious to engage a colony, a handful of whom had slain hundreds of their best and bravest warriors."

Slowly the settlement grew until its capture by the British. Since that lucky day when the French Governor laid down his arms to an English Admiral, the small wooden hamlet has been converted into one of the world's grestest cities and ports. From an Indian encampment of fifty lodges, in 1535, it has grown, in the centuries which have elapsed, into a city of over 700,000 inhabitants.

Among the old houses of history, perhaps the most interesting is the famous Chateau de Ramezay, erected in 1705 by Claude de Ramezay, Governor of Montreal. It was afterwards known as Government House, and was occupied by the American general, Montgomery, during the time he held the city. Here, too, the American Congressional Commission composed of Franklin, Chase and Carroll, sat many days and nights trying to persuade the Canadians to join the thirteen States in the rebellion against King George. The ancient redoubts are there, and much of the old furnishings and many relics of other days.

The more modern buildings are far too numerous to give in detail here, but mention of the most important occurs in the Gazetteer. There are in Montreal many fine business thoroughfares, residential boulevards, and picturesque, well-kept parks, chief among these being Mount Royal, which rises to a height of nearly a thousand feet, and affords

DOMINION SQUARE, MONTREAL *Photo, C.P. Rly.*

magnificent views over the city and surrounding country. During the bright, frosty days of the Canadian winter, Mount Royal is the scene of winter sports. Here it should be stated that the advent of the snows and the clear, sharp days which follow, far from being dreaded, are eagerly awaited by all who are active in the Great Dominion.

NEW QUEBEC.

New Quebec, or the peninsula of Ungava, extends, roughly, north of the 52nd degree of north latitude to Hudson Strait and Ungava Bay. It comprises an estimated area of about 290,000 square miles. The boundary between the territory under the jurisdiction of Newfoundland, called the " Coast of Labrador," and the province of Quebec was defined by decision of the judicial Committee of the Privy Council on March 1st, 1927, but no actual surveys have yet been made.

The surface of New Quebec is rough and rocky in places. The highest portion is near the eastern part where hills rise to a height of 6,000 feet. In the interior, elevations are over 2,000 feet, but along the Hudson Bay coast the surface is only a few hundred feet above sea-level. Large rivers flow north and west, and the interior abounds with lakes which are connected by rivers and streams, so that it is possible to travel by canoe almost anywhere with a few portages. The size of the lakes varies from 50 to 500 square miles.

AGRICULTURE.

It is thought that the only part of this territory having any agricultural value is the low-lying region to the east and south-east of James Bay. The temperate climate may be taken to extend to Cape Jones, and to be limited to the shores of James Bay.

The whole interior of Ungava is a high plateau rising, within a few miles of the Atlantic coast line, to heights between 1,500 and 2,500 feet. The general level of the interior plateau near the central watershed, varies from 1,600 to 1,800 feet. Even if the altitude and climate permitted agriculture, the soil on this plateau is thin and poor. The soil at Mistassini, which is 1,200 feet above sea level, and where there is a Hudson's Bay Company post, is reported to be boulder clay. A crop of potatoes is raised annually, but, owing to the shortness of the season and the prevalence of summer frosts, they rarely mature without the tops being frozen.

Along James Bay, south of Cape Jones, the low land extends inland from 10 to 30 miles. The general level is not much over 100 feet above sea-level. Here the soil is of clay and sand with alluvium affording good land for cultivation. At Fort George, near the mouth of Fort George River, crops of potatoes and other roots are grown annually and cattle are kept. At the mouth of the Eastmain River the Hudson's Bay Company maintained a small trading post where abundant crops of wild hay were harvested yearly and sheep and cattle were kept. At Rupert House, on the southern shore of James Bay, root crops are grown annually, and oats have been successfully raised.

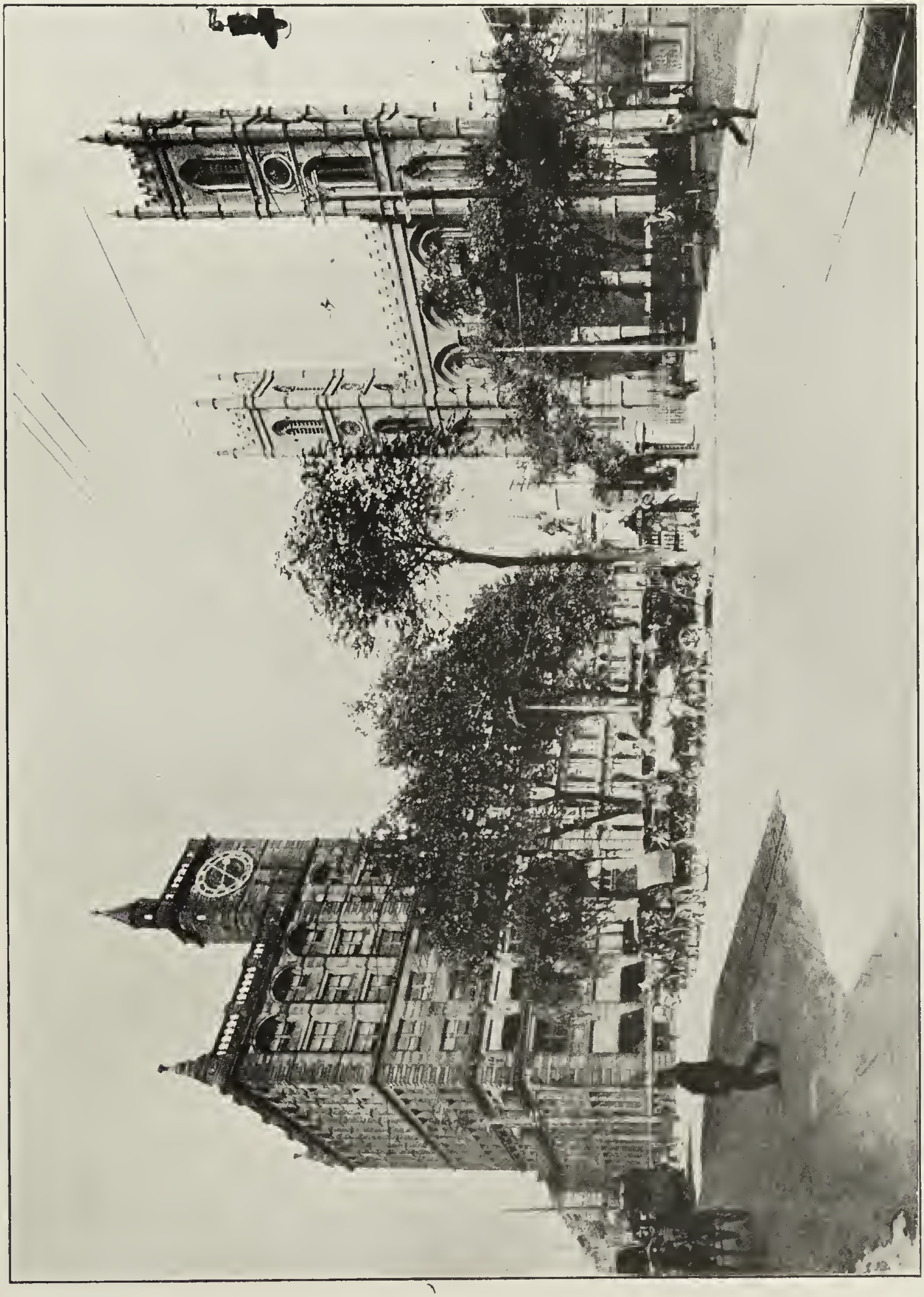
According to Dr. A. P. Low's report, the large area of country situated to the south and south-east of James Bay is covered by good clay soil capped with sandy loam. With proper drainage this portion of Ungava would make excellent farm land.

CLIMATE.

The climate ranges from cold temperate, on the southern coasts, to arctic on Hudson Strait and the high lands of the northern interior, and is generally so rigorous that it is very doubtful if the country will ever be fit for agriculture north of latitude 51 degrees, except on the lowlands near the coast of James Bay. The highlands of the interior have only two seasons, winter and summer, the abrupt changes occurring during the first two weeks of June and September. The temperature during the winter season is often very low on the interior high lands. At the North-west River post on Lake Melville, where the temperature is moderated by the open sea, the average minimum winter temperature is 45 degrees below zero, Fah. In the interior the summer temperature rarely rises above 80 degrees.

TIMBER.

The forests of Ungava are continuous in natural growth over the southern part to between latitudes 52 degrees and 54 degrees, the only exception being the summits of rocky hills. To the northward of latitude 53 degrees, the higher hills are treeless and the size and number of the barren areas rapidly increase. In latitude 55 degrees,



PLACE D'ARMES, MONTREAL

Photo, C.P. Rly.

more than half the surface of the country is treeless, woods being found only about the margins of small lakes and the river valleys, and the trees also decrease in size.

Owing to the great destruction by forest fires, it is estimated that not more than one-sixth of this territory, known as the sub-arctic zone, has merchantable timber on it.

Along the Nottaway River region, where the rainfall is abundant, the forest fires have not been so destructive. White spruce is perhaps the most valuable tree of the district. It grows to large size along the rivers and lakes. A considerable portion of the trees growing inland also attain good size. The black spruce grows more plentifully and a large proportion is of sufficient size for various useful purposes, such as fuel, buildings, railway ties, and pulpwood. Balsam fir grows abundantly throughout the region. White or canoe birch is plentiful in places. These extensive forests if preserved from fire will constitute a valuable reserve for future needs.

MINERALS.

Little prospecting has been done in New Quebec, and the mineral resources are scarcely known. Iron ore appears to be the commonest, and is distributed over large areas, being found along the east shore of Hudson Bay and on the banks of the Eastmain River. A band running parallel to the coast and 200 miles inland, along the Kaniapiskau River, is also known to contain large deposits of iron, but the intervening country has never been prospected.

Rocks resembling the Sudbury or Timiskaming series cover large areas. The lack of soil and forest cover in many places should make prospecting comparatively easy, but the difficulties of transportation and labour are too great for present development. So far as can be seen the rock conditions in Ungava are similar to those which have caused the economic deposits of the Grenville, Timiskaming, Huronian, Animikie, and Keweenawan series of Ontario and Southern Quebec, deposits which have placed these areas among the greatest mining regions of the world.

Analysis of a large number of surface samples of the hematite-magnetite ores of the Nastapoka Islands show an iron content, for the better grades, of 30 to 40 per cent. All the beds may not be equally rich, but the greater part of them on all the islands appear to be sufficiently so to constitute a valuable ore for the manufacture of spiegeleisen. The great abundance of the ore is a prime feature, the ironstone beds being spread over the greater area of the islands. The islands being destitute of timber and the rocks much shattered by frost and weather, the ore may be gathered in inexhaustible quantities. The high percentage of manganese (3.5 per cent.) in these ores, renders them valuable for the manufacture of spiegeleisen.

Specimens of ore from the Koksoak River show from 19 to 54 per cent. of metallic iron and contain no titanic acid. To the south of Swampy Bay River, exposures of iron-bearing rocks are almost continuous, and the amount of ore in sight must be reckoned by hundreds of millions of tons. The ore is not everywhere high grade, and probably a large proportion of it would be unprofitable to work, but there is certainly an almost inexhaustible supply of high-grade ores.

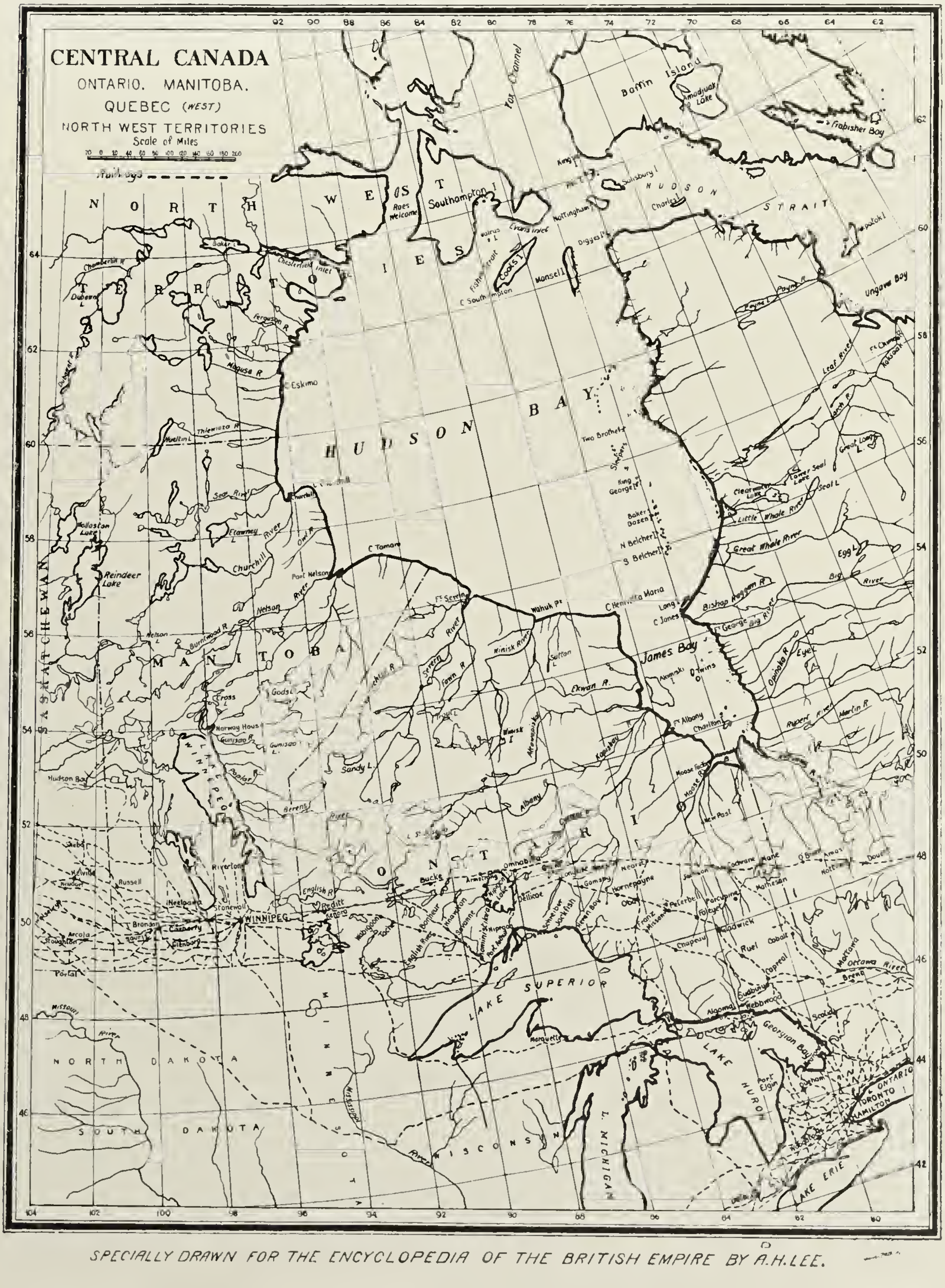
FISHERIES OF HUDSON BAY.

In course of time it may be found that the fisheries of Hudson Bay will prove to be its greatest natural resource. There is every reason to hope that, with railway communication established to the shores of James Bay, a fishing industry may be developed equal to that of Labrador and the banks of Newfoundland.

Sea-run brook trout, whitefish superior in flavour to those taken in Lake Superior, weighing from 1 to 6 pounds, are found abundantly along the entire coast to Cape Wolstenholme.

Arctic trout or Hearne salmon are found along the northern coast as far south as Seal River. This is a beautiful fish with well-flavoured, dark pink flesh, and it varies in weight from 1 to 15 pounds, the average being about 5 pounds. These fish are salted at Chimo, on Ungava Bay, and fetch nearly the same price in London as salted salmon from the same locality. They are plentiful about the mouths of the northern rivers and along the coast, and the Eskimos report them abundant at the Belcher and other islands lying off the west coast.

It was not definitely known that cod existed in Hudson and James Bays, until Dr. Low reported in 1900 that cod were


CENTRAL CANADA
ONTARIO. MANITOBA.
QUEBEC (WEST)
NORTH WEST TERRITORIES
Scale of Miles
Railways
NORTH WEST TERRITORIES
Baffin Island
Amadjuak Lake
Frobisher Bay
Fox Channel
Southampton I
Roes Welcome
Chesterfield Inlet
Baker L
Dubawnt L
Ferguson R
Maguse R
Eskimo
Thlewiaza R
Seal River
Wollaston Lake
Reindeer Lake
Churchill River
Nelson River
Port Nelson
C Tatnam
Ft Severn
Severn River
Winisk River
Wahuk Pt
C Henrietta Maria
HUDSON BAY
HUDSON STRAIT
Nottingham I
Salisbury I
Charles I
Digges Is
Mansel I
Coats I
Evans Strait
Fisher Strait
C Southampton
Walrus I
Ungava Bay
Payne R
Leaf River
Koksoak
Ft Chimo
Great Lake
Clearwater Lake
Lower Seal Lake
Little Whale River
Great Whale River
Two Brothers
Sleepers
King George Is
Baker Dozen
N Belcher I
S Belcher I
Long I
C Jones
Big River
Bishop Roggan R
Ft George
Eastmain
Egg L
James Bay
Akimiski I
Twins
Ft Albany
Charlton I
Moose Factory
Moose R
Rupert River
Martin R
Opinaka R
Ekwan R
Attawapiskat R
Albany R
Kapiskau
Sutton L
Fawn R
Winisk L
MANITOBA
Burntwood R
Nelson L
Cross L
Gods L
Norway House
Gunisao R
Gunisao L
Sandy L
Berens River
Hudson Bay
Poplar R
LAKE WINNIPEG
Riverton
Stonewall
WINNIPEG
Neepawa
Brandon
Carberry
Melville
Russell
Arcola
Stoughton
Portal
Kenora
Redditt
English R
Wabigoon
Dryden
Sioux Lookout
ONTARIO
Ombabika
Nipigon Lake
Nipigon
Port Arthur
Fort William
Armstrong
Beardmore
Longlac
Geraldton
Hornepayne
Oba
Hearst
Cochrane
Matheson
Porcupine
Foleyet
Gladwick
Chapleau
Franz
Missanabie
White River
Jackfish
Schreiber
Heron Bay
Sudbury
Capreol
Cobalt
Ruel
Mattawa
Ottawa River
North Bay
Haileybury
Amos
Doucet
LAKE SUPERIOR
Marquette
Algoma
Webbwood
Georgian Bay
LAKE HURON
Port Elgin
TORONTO
HAMILTON
L. ONTARIO
LAKE ERIE
L. MICHIGAN
WISCONSIN
MINNESOTA
NORTH DAKOTA
SOUTH DAKOTA
Missouri River
Mississippi River
SASKATCHEWAN

SPECIALLY DRAWN FOR THE ENCYCLOPEDIA OF THE BRITISH EMPIRE BY A.H.LEE.

taken at Cape Smith and near Fort George in James Bay by members of the expedition. The Eskimos catch them in Nastapoka Sound and at the Belcher Islands.

Fish of various kinds and of large size are caught in the lakes of New Quebec. The Great Lake trout is very plentiful in all the larger lakes, and weighs from 8 to 25 pounds. Brook trout are common in all the streams, and whitefish weighing 3 to 4 pounds, pike, pickerel, and chub are found in all the lakes. The Atlantic salmon is abundant in the rivers flowing into Ungava Bay.

FURS.

Foxes are the most numerous of the fur-bearing animals in New Quebec. In order as to quantity they may be rated white, red, cross, black (silver) and blue. Next to foxes, marten are the most numerous. It is one of the most abundant and valuable fur-bearing animals in Ungava. Its northern range is practically limited to the southern boundary of the semi-barrens, and it is found only in the wooded stretches of the river valleys north of this line. The otter is common throughout the wooded region, and ranges northward into the barren grounds. Beaver is not found north of the thickly wooded area. On the Hudson Bay coast it is rare north of Fort George River. Beaver are plentiful on the lower Eastmain River. Mink are common in the Lake Mistassini region, and ermine are found everywhere throughout the wooded regions. Other fur-bearing animals include lynx, fisher, bear and wolverine.

WATER-POWERS.

The interior of Ungava is a huge plateau which rises somewhat abruptly within a few miles of the coast line to heights of 500 to 6,000 feet. The various streams accordingly afford numerous water-powers. On Great Whale River, for instance, within twenty miles of the mouth, there are three falls 150 feet, 230 feet, and 65 feet respectively. The extensive water-powers of New Quebec constitute a great reserve for future development.

The Province of Ontario

Ontario is the second largest province in Canada, having an area of 407,262 square miles, of which 49,300 square miles is water. It is bounded on the north by the Hudson Bay, on the east by the Province of Quebec and the Ottawa River, on the south by the St. Lawrence River, the Great Lakes Ontario, Erie, Huron and Superior, and the Rainy River, and upon the west by the Province of Manitoba. The population numbers 3,271,300.

HISTORY.

The settlement dates back to the year 1773, when hundreds of United Empire Loyalists, unwilling to live under any but British rule, left the New England States and migrated to the land lying to the north of the St. Lawrence River, after the close of the War of the Rebellion, when the New England Colonies seceded. Lakes Ontario and Nipissing were visited by Champlain, the French explorer, as early as 1615, while traders explored Lake Superior in 1660. In 1671 Perrot took possession of the district around Lake Huron, and eight years after La Salle founded Niagara and explored the waterways to Lake Michigan. Exactly 100 years later the fort at Toronto was built.

Once forming part of the Province of Quebec, it was ceded to the British with that region by the French, and was at that time, and until 1791, called "Upper Canada," when it was formed into a separate province. At Newark (now Niagara), the first Parliament was held, on the 17th November, 1792, but political dissensions were rife, and continuing with increased bitterness from 1820 to 1837, culminated in a rebellion. In 1867 it was made the chief Province of the Dominion under the name of Ontario. The Government is vested in a Lieutenant-Governor and a Legislative Assembly of 106 members, elected for four years (no property qualification being necessary), representing 102 electoral districts into which the Province is divided. The Executive Council consists of eleven members, eight of whom act as the Ministry of the Province, and three are without portfolio. The Legislature meets every year at Toronto. Ontario is represented in the Dominion Government by 82 members in the House of Commons and 24 in the Senate.

MINING.

Geologically, Ontario may be said to come almost entirely within the great Laurentian

Plateau that covers all the eastern half of Canada and encloses the Hudson Bay like a huge "V." These rocks are of the pre-Cambrian formation, and remarkable for the variety of useful and valuable minerals they possess—iron, copper, nickel, cobalt, silver, gold, platinum, lead, zinc, arsenic, pyrite, mica, graphite, feldspar, quartz, corundum, talc, actinolite, the rare earths, ornamental stones, gems, and building materials, are all to be found therein, and many are being most profitably worked.

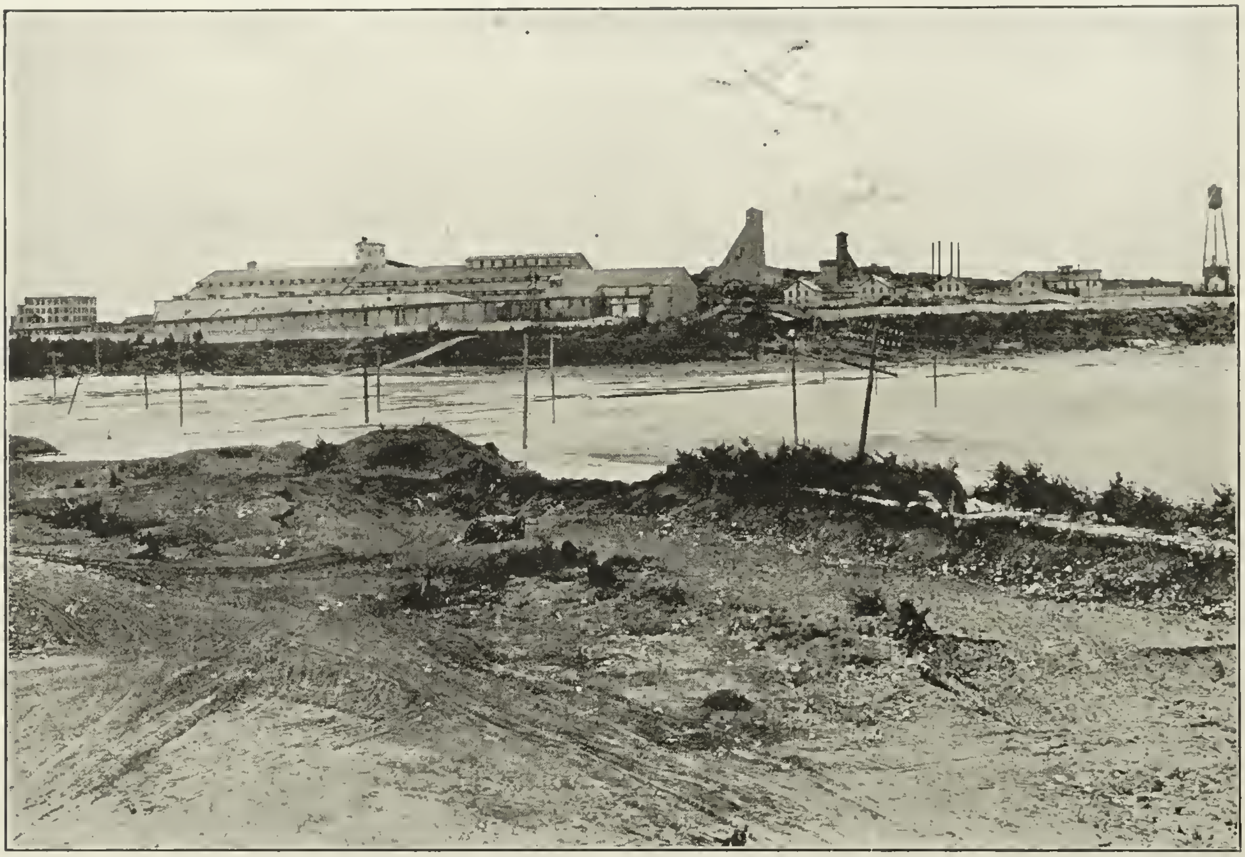
Towards the north-east are found the veins of valuable minerals which have made the Cobalt, Sudbury and Porcupine Districts famous throughout the world. The average annual value of the mineral production is, approximately, £20,000,000. The output of metallic minerals constitutes about two-thirds of the total production. Gold comes first, with an average value of £6,000,000, then nickel, £3,000,000, silver, £1,000,000, and copper £980,000. Ontario is the principal mineral producing province of the Dominion.

AGRICULTURE.

The total area of Ontario is 234,163,200 acres, of which about 16,000,000 acres have been cleared, and 12,000,000 acres brought under cultivation. The average annual value of the agricultural products amounts to just over £100,000,000. The Niagara district is famed for its luscious peaches and grapes, the good, sandy soil promoting the health and strength of the vines. Tomatoes, pears, plums, strawberries, and fruit of all descriptions flourish abundantly in these southern districts. There are also numerous canneries, where enormous quantities of fruit and vegetables are annually "canned" for shipment to all parts of the world. An increasingly large quantity of vegetables and fruits are being raised under glass, to provide for the demand of those desiring them out of season. The cheese factories produce an average of 120,000,000 pounds of cheese a year, which is valued at £4,000,000; and the output of the creameries is 62,000,000 pounds of butter, worth about £4,500,000.

ALGONQUIN PARK, ONTARIO *Photo, High Commissioner for Canada*

One of the great National Parks of the Dominion, which are really forest and game reserves



A GOLD MINE AT TIMMINS ONTARIO *Photo, C.P. Rly.*

The number of livestock in the province is, approximately: horses, 630,000; cattle 2,760,000; sheep, 900,000; pigs, 1,736,000; and poultry, 18,000,000. There are 122 Farmers' Institutes in this province, and about 1,520 students enrolled on the books of the Ontario Agricultural College, which is one of the finest educational institutions of its kind in the world.

INDUSTRIES.

There are 9,512 manufacturing establishments, having a combined capital of £424,000,000, and employing 296,000 people. Among them are: iron and steel, munitions of war, lumber, machinery, engines and boilers, electrical and heating apparatus, vehicles (including motor cars), furniture, hardware, musical instruments, woollens and cottons, wood pulp and paper, cement, canning, milling and agricultural implements. The average annual production of manufactured goods amounts to £351,600,000.

The Great Lakes, as well as the rivers, abound with fish, and yield each year large returns. The average annual value of the fishing industry is approximately £800,000. The principal fish caught are whitefish, trout, pickerel, pike, sturgeon and fresh-water herring.

The pine forests are the most valuable on the Continent of America. An estimated area of 102,000 square miles is covered by forests, and of this 18,410 square miles is under licence, while the total area of the National Park and Forest Reserves is 18,324 square miles, with an estimated value of £76,391,752. The quantity of timber standing on licensed lands is 7,000,000,000,000 feet, and on unlicensed territory 13,500,000,000,000 feet (B.M.). The pulpwood is estimated at 300,000,000 cords. The total value of the timber and pulp produced each year averages just under £20,000,000.

Immense water-power gives to Ontario excellent facilities for manufacturing. In addition to the power supplied from Niagara Falls by the Hydro-Electric Commission, it is estimated that within 100 miles of the

Grand Trunk Pacific Railway, which crosses the northern portion, there is sufficient latent energy to give 2,030,600 h.p. on the water shed towards Hudson Bay.

The hydro-electric power plant, set up by the Ontario Government, has proved of inestimable value to the manufacturers and farmers of the Province, serving as many as thirty-two municipalities. It is the largest transmission organisation in the world, having a 110,000 volt line 281 miles long. This is carried on 3,094 steel towers having a total weight of 7,200 tons, and the total length of cable used is 1,154 miles. The Commission cost, up to 1st October, 1912, £857,490. Niagara Falls low-water flow would yield 2,250,000 h.p., and franchises have already been granted for the development of 450,000 of Canada's share of 1,125,000 h.p.

There is a greater mileage of railways in this province than in any other in the Dominion. Over 10,000 miles of lines are in operation, and there are about 400 miles of track being worked electrically in the municipal areas. Express delivery companies operate over 15,300 miles of road. A number of canals in connection with the St. Lawrence waterway and Great Lakes also afford an easy and cheap means of transportation, and connect the ports along this river with the Atlantic Ocean.

SCENERY AND CLIMATE.

Ontario is famed for beautiful scenery which is varied in character. The St. Lawrence River, with its "Thousand Islands," stretching for a distance of sixty miles, from the old military city of Kingston to Brockville, is unsurpassed in beauty. Many of these islands are well wooded and just as Nature left them, but a great number have been adorned with artistic summer residences, and their wild shrubbery replaced by exquisite flower gardens which add a lovely bit of brightness to the green of the trees and the deep blue of the water surrounding them. Passing from the foot of the islands through fifteen miles of straight river with well-kept farms on either side, the rapids are reached. These stretch for nearly 100 miles. There

Photo, High Commissioner for Canada

A FRUIT FARM IN WESTERN ONTARIO

are seven in all, with a descent of 200 feet, commencing just below Prescott, with its quaint old fort, and extending to Lachine.

The Muskoka district abounds in beautiful lakes well stocked with fish, and possesses commodious hotels where the angler can enjoy every comfort. The islands in Georgian Bay, sometimes called the "Thirty Thousand Islands," by virtue of their great number, have a grandeur all their own. Niagara Falls which empty the waters of Lake Erie into Lake Ontario, is the most picturesque bit of scenery in the world.

These falls are divided by Goat Island into two parts, known as the "American Falls" and the "Horseshoe Falls," and have a drop of 220 feet. Little inferior in beauty and grandeur to the waterfall itself, is the great Gorge through which the waters, after their awful plunge over the cliff, rush onward to Lake Ontario.

For a short distance from the foot of the Falls the water is fairly smooth, with a swift current, but gathering momentum as its channel narrows, it fills the Gorge and rushes over the rocks in foaming torrents, breaking into spray, and dashing high into the air as it surges against some rock in its mad race for the calmer stretches of the bed below.

Queen Victoria Park, with its lovely timber, extends for two miles along the river, and it is from here that the best views are obtained of the American, Bridal Veil, Central, and Horseshoe Falls. The Falls are reached by a two-hour boat trip from Toronto.

With such enormous waterways, Ontario has naturally excellent boating and sailing, while the rolling country lends itself readily to golf and fox-hunting. Here, too, the winter sports are becoming popular, and each season brings its tourists from warmer climates to enjoy the ice-boating, skating, snow-shoeing, ski-ing, and tobogganning. The northern part of the province abounds in game, such as partridge, various kinds of duck, deer, and bear, and the shooting is excellent. (See under *Big Game Hunting*.)

The climate of Ontario varies exceedingly, as is only to be expected considering the wide ranges of latitude and the effects of the Great Lakes on the atmospheric conditions of the south. In the north the winters are long and cold, but bright, and the summers are beautiful, with almost continuous sunshine, and hot days with refreshingly cool nights. Centrally, the winters are less cold, but there is a plenteous snowfall, and the summers are from warm to hot. To the south the Lakes moderate the climate very much, and the winters are much warmer, and slightly more inclined to rain than in the north. In the summer, intense heat is again modified by the action of the Lakes. Normal temperatures in degrees Fahrenheit and precipitation in inches at various stations in Ontario are as follows :—

STATION.	DEGREE OF TEMPERATURE, F.						HOURS OF SUN-SHINE	PRECIPITATION IN INCHES		
	Mean Annual	Mean Winter	Mean Summer	Lowest	Highest	Normal Annual	Normal Annual	Normal Annual Rain	Snow	Total
Port Arthur -	34.6	0.4	58.3	-36.0	96.0	35.7	—	19.01	44.5	23.46
Toronto -	44.8	16.5	65.2	-18.8	92.7	45.5	2,048	25.28	61.0	31.38
Stonecliffe -	36.8	1.6	61.4	-40.0	99.0	38.5	—	21.69	82.6	29.95
Ottawa - -	40.1	7.0	63.6	-27.0	91.0	43.0	1,874	33.40	87.0	33.40

TORONTO.

The capital of the Province is Toronto; and Ottawa, the Federal capital of the Dominion, is also in this province (*q.v.*). Toronto is the second largest city in the Dominion, having a population of about 700,000. On the Grand Trunk, Canadian Pacific, and Canadian Northern Railways, it is 334 miles south-west of Montreal, and steamers run to all the ports on the lakes and the St. Lawrence waterway.

The town was founded and named "York" by Governor J. G. Simcoe in 1794. The Legislature assembled here first in 1797. In 1813 it was captured and held by the Americans, who evacuated it, however, after

KING STREET, TORONTO

Photo, C.P. Rly.

O

occupying it only a few days. The name was changed to Toronto—a Huronic Indian word—when incorporated as a city in 1834.

Here are situated the Provincial Government and Parliament Buildings, a most imposing structure in Queens Park ; and the University of Toronto with Theological, Medical, and other professional colleges (including a Roman Catholic College) and academies, with over 4,000 students. The beautiful public parks and gardens cover over 2,000 acres, and there are excellent art galleries, museums, libraries, hospitals, reformatories, asylums and orphanages, fitted upon the most modern lines. Toronto has been called the " City of Homes," so beautiful and costly are its private residences, while the less pretentious houses are new and well built, and the streets are tastefully arranged. The Canadian National Exhibition grounds are also within the city limits, and cover an area of 264 acres, having fine permanent buildings for exhibiting products from the various provinces of the Dominion. It resembles a large town.

Toronto has 115 banks, and 275 churches, including a Roman Catholic and an English Cathedral. There are 170 papers and periodicals published here. The electric supply comes from the Niagara Hydro-Electric power plant already referred to. The principal clubs are the Royal Canadian Yacht Club, Toronto Hunt Club, Lambton and Rosedale Golf Clubs, York, Toronto, National Albany, and American social clubs, and the Argonaut Boating Club as well as many small clubs. The largest hockey rink in Ontario is situated here, and is equipped with an artificial ice plant. The School of Infantry, adjoining the old wooden fort, has a garrison and is a training establishment as well. Toronto has a Military Institute and Club. The school buildings are handsome and commodious, and speak volumes for the free school system of which Toronto is the centre. The Lieutenant-Governor of Ontario resides in this city, and a beautiful Government House has been built which does credit to the " Banner Province." The city has a most extensive street railway system, and the industrial section comprises some 900 factories. So rapidly is this city growing that tube railways are being suggested as the only means of solving the traffic problems in the busy commercial areas. The assessable value of " Greater Toronto " reached one thousand one hundred million dollars in the year 1930.

Toronto is the proud possessor of the most beautiful recreation park on the continent, it is composed of three large islands, which have been joined together by made-land, forming a walk three miles long on the Lake Ontario side, and being formed into bays on the Toronto Bay side of the islands. Here are the headquarters of the Royal Canadian Yacht Club, and several Canoe Clubs, while there are hundreds of summer residences of the wealthy classes making it like a summer city. The " Sick Children's Hospital," a handsome and commodious building with lovely grounds, occupies the southern portion towards the lake. There are cricket and playgrounds, and a lagoon comprising a mile of water makes good canoeing. The western end of the park is the " White City " of amusements, and has a stadium, built of concrete and iron, which will accommodate 30,000 spectators. Here the famous baseball games are held every summer.

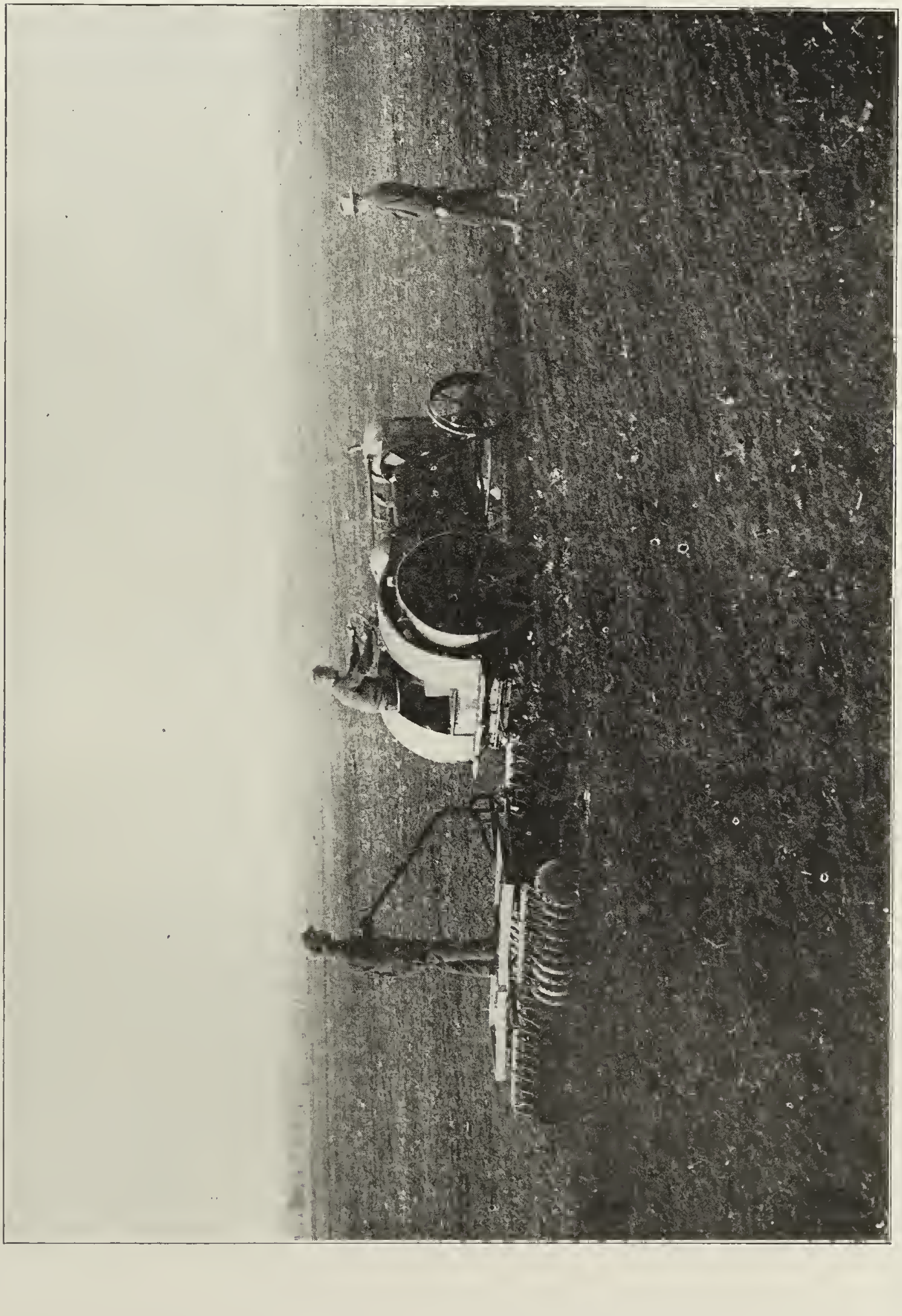
Province of Manitoba

This, the most easterly of the three prairie provinces, was, until 1912, an almost square block of territory situated midway between the Atlantic and Pacific Oceans. One side of this square remains, but the other three boundaries have been extended until the province now reaches north to the 60th parallel, the shore of Hudson Bay, making it a maritime province. It comprises 251,832 square miles, or more than 148,432,640 acres ; and has a population of over 663,200.

HISTORY.

The first white settlement in the Province, and in all the prairie country (the Selkirk Colony), was made in 1812, on both sides of the Red River below Winnipeg, then called Fort Garry. The colonists were mostly from Scotland and many of their descendants still reside on the old homesteads in comfortable residences.

The colony remained under the Hudson Bay Company rule at Fort Garry until 1870, when the whole western country, excepting British Columbia, which was already an independent colony, passed under the control of the Dominion Government by purchase.



FARMING IN MANITOBA

Photo, Grand Trunk Rly.

A FARM AT PORTAGE LA PRAIRIE *Photo, C.P. Rly.*

The colony was at that time known as Assiniboia. The price paid the Hudson Bay Company to transfer their title was £300,000, they were, however, allowed to retain two one-mile-square sections of land in each township of thirty-six sections (six miles square), and small areas around their trading posts about one-twentieth of the land all told. From this time onward to the present day the political history of the Province became merged in that of the Dominion of Canada (*q.v.*).

The Local Government of the Province of Manitoba (old and new) is administered by a Legislative Assembly composed of forty members, together with a Lieutenant-Governor and an Executive Council of six members chosen from and responsible to the Legislature. In the Dominion Senate, Manitoba has four members, and ten in the House of Commons. The grant to the Province from the Dominion Government, which forms one of the principal sources of revenue increases according to the population. The census returns in 1921 showed the number to have increased by 148,724 in five years. In the next five years the increase was only 29,000. During more recent times the influx of immigrants has, however, again increased. The income of the Provincial Government is derived from subsidies and interest payable annually by the Dominion Government on account of reserved taxation (customs, etc.), land sales and fees, licences and succession duties. The largest expenditure is for education, public works, and the administration of justice.

NEW MANITOBA.

Manitoba holds a unique position as the only Prairie-Maritime Province in the Dominion of Canada. By the recent boundary extension northward and eastward to the shores of Hudson Bay, Manitoba gains not only a wonderful wealth of agricultural land, timber, fisheries, water-powers, and minerals, but also a maritime coast-line which includes the two finest harbours on Hudson Bay, namely, Churchill and Nelson. So that to the tremendous advantages of her vast prairies must now be added those of direct ocean routes to the world's markets. The Hudson Bay route for the shipment of grain and produce from the Canadian West and the North-western United States to European markets is between 700 and 800 miles shorter than other routes. The completion of the

Hudson Bay Railway will soon be followed by the establishment of regular summer sailings by fast steamships from Hudson Bay ports to Europe, the Atlantic sea-coast of America, and the British West Indies ; so that a great volume of world-wide commerce will sweep throughout the length and breadth of Manitoba.

From the results already obtained here and there in the new territory, and from a study of climatic conditions and the soil generally, there is no doubt that mixed farming will prove a great success in many portions of New Manitoba. Large tracts of excellent land are to be found suitable to the cultivation of all manner of vegetables, wheat, barley and small fruits, while in some places the conditions for stock-raising are ideal. The nature of the new country varies greatly. An immense clay belt, 10,000 square miles in area, sweeps across the Province, north of Lake Winnipeg. In other places the soil is a light, sandy loam. There are evidences of good mineral country, and an unlimited supply of spruce, poplar, jack pine, tamarack and pulpwood. A great stretch of fairly level country extends northward, sloping towards the sea at the rate of about two feet in a mile.

It is impossible adequately to measure the richness of New Manitoba's resources until the country has been opened up by the railroads ; but it is known that fish-canning factories and many valuable industries will soon spring into existence, affording unlimited revenues. Needless to say, game of all kinds is very plentiful in the new territory, and the Manitoba game laws will protect it with the same care that has been exercised in preserving the game of the older portion of the province. It is interesting to note that in a report of the Conservation Commission at Ottawa the estimated available horse-power of Canada's rivers is 16,640,000, and that one-third of this (over 5,500,000) is credited to New Manitoba. The cheap power, heat and light, which this holds in store for Manitoba residents is but one of many rich heritages belonging to the province's development in the near future.

MILKING BY ELECTRICITY *Photo, C.P. Rly.*

SCENERY AND CLIMATE.

Manitoba has the largest lakes in the prairie belt, and the largest mountains east of the Rockies. Its three great lakes are Winnipeg, Winnipegosis and Manitoba, all draining to the north-east, through the Nelson River, into Hudson Bay. Lake Winnipeg, with a length of 260 miles and an average width of 30 miles, is the largest of the three. Into it flow the Winnipeg, the Red and the Saskatchewan Rivers, with other smaller streams. The Assiniboine River, flowing eastward, joins the Red River, flowing north, and at their confluence is located Manitoba's capital and chief city—Winnipeg. The Saskatchewan River, which has its source in the Rocky Mountains, is a mighty stream flowing into Lake Winnipeg from the west, and by its means the city of Edmonton, the capital of Alberta Province, has direct water connection with Winnipeg. Southern Indian Lake, in Northern Manitoba, is a body of water of considerable extent, drained by the Churchill River into Hudson Bay. There is no lack of lakes and rivers in Manitoba, which accounts in no small measure for its extraordinary fertility. Timber tracts of considerable size edge the river banks, the trees being aspens, maples, oaks, elms and willows, and there is a genuine forest near the Lake of the Woods. In the western portion of the Province are found the Porcupine, the Duck and the Riding Mountains, while to the south rise the Turtle and the Tiger Ridges, but most of the land is flat, treeless prairie.

In the south-central portion of the province unmistakable evidence exists that at one time a lake—which has been called Lake Agassiz—was to be found there. It is surmised that glaciers blocked the outlet and forced the waters of this lake over a wide expanse of territory. When the ice disappeared there was no trace of Lake Agassiz, save deposits of clay and silt, now covered with from 2 to 4 ft. of black vegetable mould, which seems inexhaustible in its productiveness. It is this rich soil which yields the greatest wheat harvests of the world. In addition to wheat, this section raises bountifully all other field crops and garden products. Fertile soil, ample sunshine and rainfall, ensure the highest agricultural development.

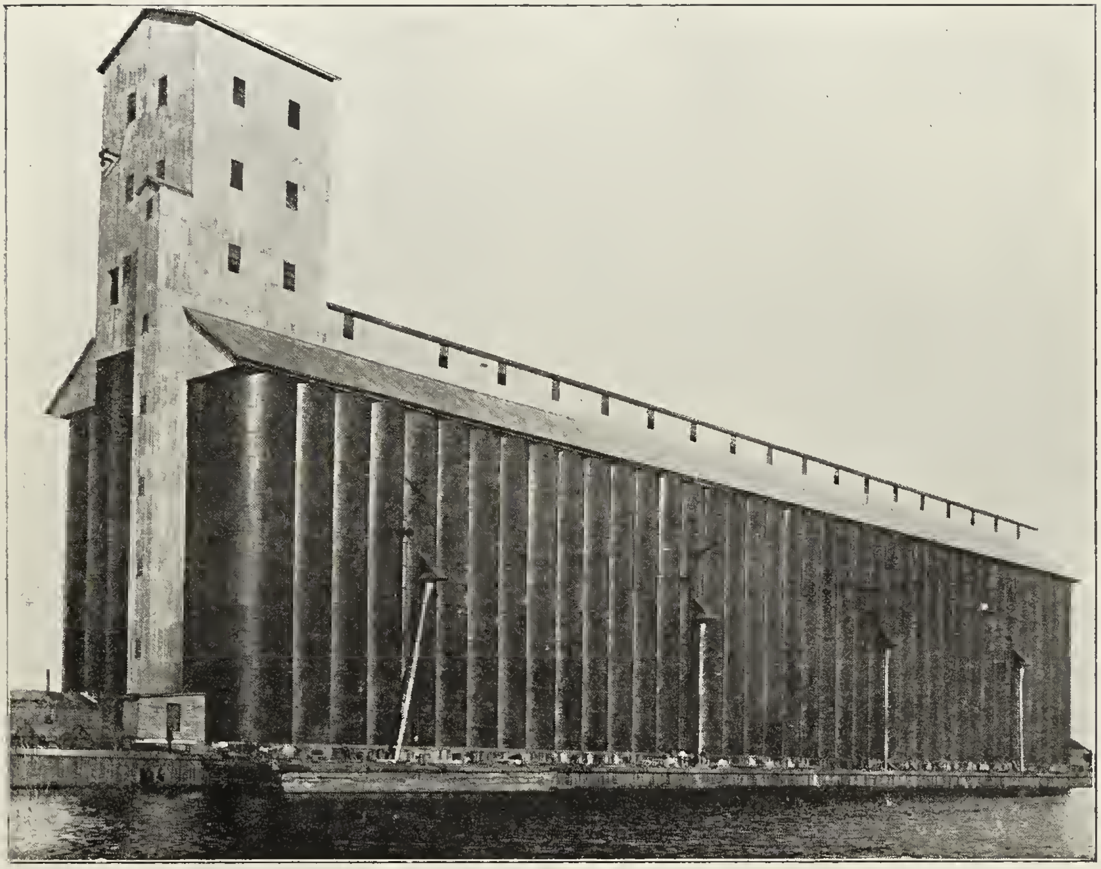
Within Manitoba lies the first of the three Prairie Steppes, of which Central Canada occupies a large portion. This steppe contains nearly 7,000 square miles, and has a width gradually enlarging from 50 miles at the international border to 250 miles, when it terminates at the ridge formed by the Riding and Duck Mountains and the Porcupine Hills. A large part of South-western and West-Central Manitoba is included in the Second Prairie Steppe, which extends north-west into the Province of Saskatchewan, and possesses a soil that vies in richness with that of the Red River Valley.

Unlike some of the other provinces, Manitoba possesses but little variety of climate. With it, climatic conditions are uniform throughout. One pleasant condition is much sunshine the entire year through. This makes the summer pleasant, warm, and very conducive to the rapid and successful growth of vegetation. The autumns are unusually long and agreeable, ploughing weather sometimes extending even to the end of November. The winters rarely last more than three or four months, and, on account of the dry atmosphere, the low temperature is not as much felt as in countries with more moisture. The snow is never deep, and travel in winter by team or rail is rarely impeded by drifts or blockades. The annual precipitation is 21.4 in.

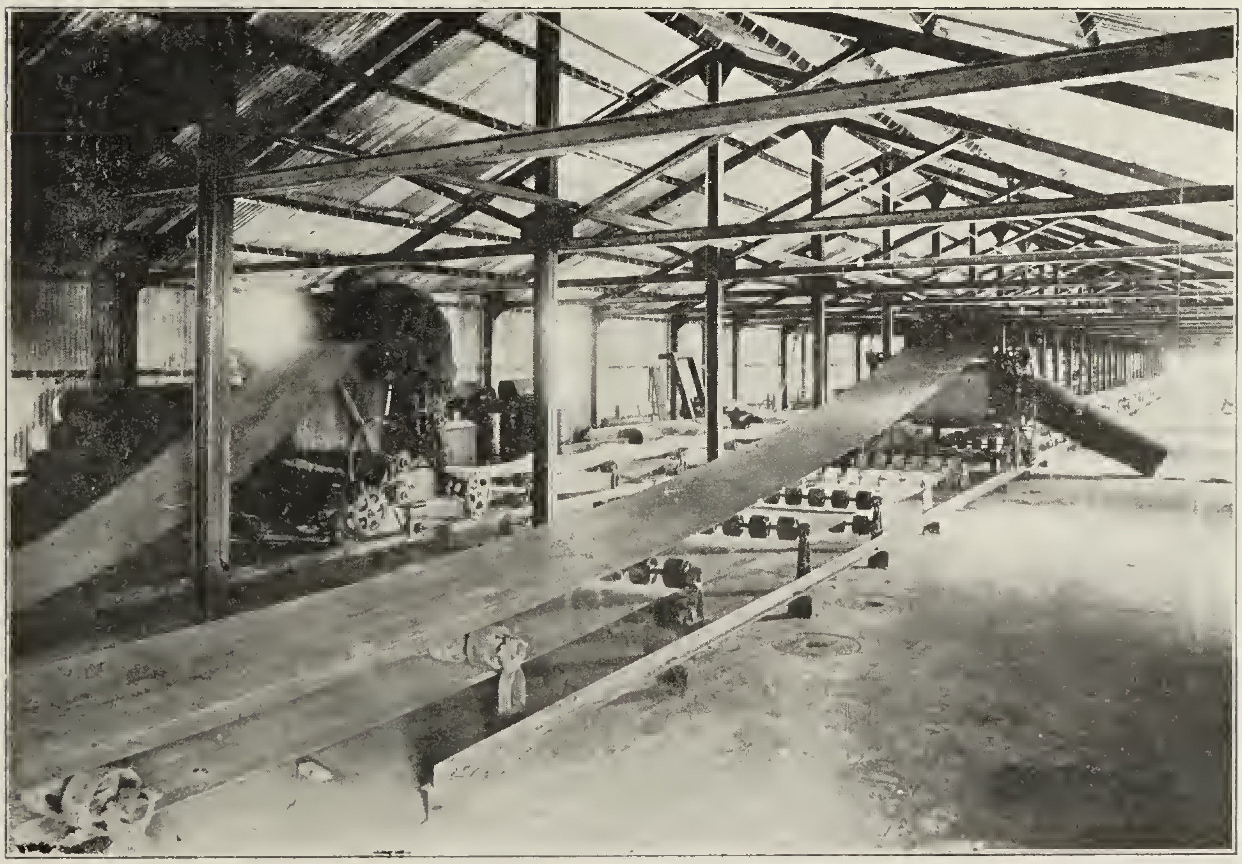
The spring months are most invigorating. The deep frost escaping from the ground during that time assures sufficient moisture to give vegetation a good start until the June rains, which are invariably ample to guarantee successful crops in all branches of agriculture. The moderate rains of July continue the growing and ripening processes under a warm sun, and harvesting becomes general in August. The mean temperature of the country is 32.7; January 5.2; July 66.1. Seeding usually begins the first week in April, before the frost is fully out of the ground, and the summer is of ample length to bring the staple crops of the province to maturity.

AGRICULTURE.

The development of the wheat-growing industry has been exceedingly rapid. The total average annual yield for the whole of Canada now amounts to between 400,000,000 and 500,000,000 bushels, and is increasing at the rate of nearly 90,000,000 bushels per annum. If to this was added the wheat retained by



A GRAIN ELEVATOR



INTERIOR OF AN ELEVATOR

Photos C.P. Rly.

farmers for seed the total would be immensely increased. The milling industry is very important, for every place of any size has large mills for the grinding of wheat into flour; oatmeal mills also do a thriving business. Nearly all the wheat of Canada is produced in the Prairie Provinces. The area under field crops in Manitoba is about seven million acres.

In the last five years the production of flax has almost quadrupled, while the total increase in the yield of oats exceeds that of wheat. There are annually 82,000,000 bushels of oats to the credit of Manitoba. The gain in barley production is equally marked. Rye, peas, potatoes and turnips are among the other important crops, and a brave beginning has been made in tobacco culture. A Dominion Experimental Farm at Brandon is doing much to educate the farmers, as are also the agricultural and horticultural associations.

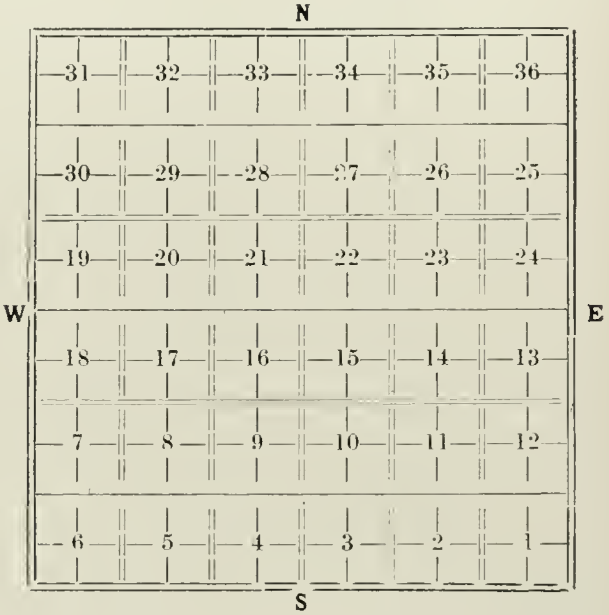
The profitableness of dairy-farming may be judged by the fact that the average annual value of the dairy products amounts to over £1,000,000 (exclusive of milk), and is constantly increasing. The cheese output averages 900,000 lb., and the butter 15 to 16 million pounds.

The total land area of Manitoba is 148,432,640 acres, of which only 7,421,786 acres are under cultivation; but this comparatively small area produces crops to the average annual value of £24,000,000. The future possibilities are therefore very great if the requisite supply of farmers and "hired men" is forthcoming. The live-stock include about 360,000 horses, 750,000 cattle, 130,000 sheep, 350,000 pigs, and 4,000,000 poultry. Nowhere in Canada is agricultural instruction more efficient than in Manitoba.

FORMATION OF NEW TOWNSHIPS.

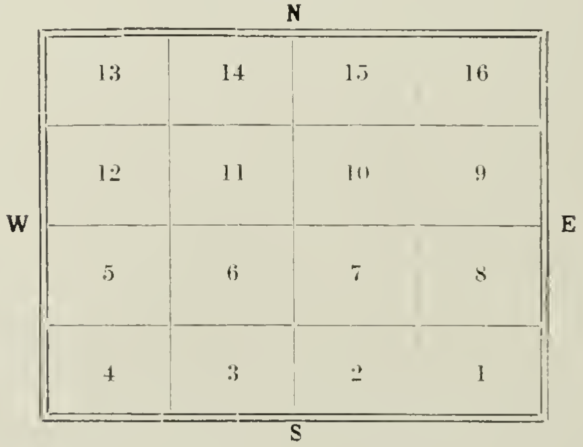
So rapid is the rate of development on the prairies of Canada that it may not be out of place to give here the plan upon which townships, sections and quarter-sections are laid out. The same arrangement holds good in the other Prairie Provinces of the Dominion. Townships are numbered consecutively from south to north. Each row of townships thus formed is given a range number. The ranges start from a principal meridian and are numbered consecutively. The first meridian is a few miles west of Winnipeg. Ranges number from this meridian as a starting point, both eastward and westward. In regard to all other meridians, ranges number westward only.

PLAN OF A TOWNSHIP.



The double lines indicate the road allowance.

PLAN OF SECTION.



Each section is deemed to be divided into 40-acre areas, known as legal sub-divisions, and numbered and bounded as in diagram above.

It will be seen that the number, range, and meridian at once show the exact location of a township. Each section of a township is divided into four square blocks, called quarter-sections.

A quarter-section is half a mile square, and contains 160 acres. It is the unit on which these lands are dealt with.

As a section is a square whose sides run east and west and north and south, the four quarters which it contains are described, according to their location, as the north-east quarter, the north-west quarter, the south-east quarter, the south-west quarter.

Road allowances are provided, namely, running north and south, between each section ; running east and west along the township lines and from thence, two miles apart.

TRANSPORT AND INDUSTRIES.

For the extension of her chief industries—the growing and marketing of grain—Manitoba is largely dependent on railways, and the broad expanses of prairie land offer every facility for their expeditious and economical construction. From Winnipeg eight lines radiate to different parts of the Province, and to the far east and west of the Dominion. From Montreal across the Atlantic, and from Vancouver, Victoria, and Prince Rupert over the Pacific Ocean, her mighty harvests go to feed the nations of the earth. By connections at Brandon and Portage la Prairie with the Great Northern Road of the United States, there is a commercial interchange across the border, and another outlet is secured by transfer, from rail at Fort William and Port Arthur, to the Great Lakes.

The province has an ever increasing railway mileage (see *Railways*) ; its systems being the Canadian Pacific, Grand Trunk Pacific, Great Northern, Transcontinental, and Canadian Northern. Branch lines are being constructed in all directions to keep pace with the development of the agricultural areas, and to handle the manufactures which of late years have begun to be of some importance. One very necessary service performed by these lines is the carrying of timber and mails to the prairie farmer.

There is now the Canadian National line from Winnipeg to Churchill, Hudson Bay. From this port, during the ice-free season, Liverpool is distant only 2,936 geographical miles.

The manufacturing industries of Manitoba have been steadily increasing for many years. The capital invested amounts to about £30,000,000, which gives employment to 23,000 people, and yields an annual average gross revenue from finished products of £29,000,000. The principal industrial centres are Winnipeg (£16,000,000), Brandon and St. Boniface. The lake fisheries are also of economic importance, and Northern Manitoba is already known to be rich in both minerals and timber.

EDUCATION AND PRAIRIE SCHOOLS.

The high standard set by the Canadian system of education is known the world over. Manitoba's great school system has kept pace with the times, and the incoming settler need have no fear that in Manitoba his children will be deprived of educational advantages ; on the contrary, he will find the schools of Manitoba thoroughly up-to-date in equipment, the teachers competent, and the courses carefully selected and supervised. Nor must it be imagined that this efficiency in education is confined to the cities and towns. The problem of the rural school has long been the subject of careful consideration by the authorities, and the practical result of these deliberations is proving highly satisfactory.

The old-time pioneer school has dropped out like the mud that chinked the crevices between its logs, and has been lost in the eddies of modern improvement like the straw that thatched its roof. It its stead has come a strong tendency towards consolidation. By this is meant the merging of several small, inefficient school districts into a large one—large enough in numbers to form a school full of energy and spirit, where the various forms of education may be dealt with, and large enough in area to provide sufficient funds to build, equip, and operate a big school at a moderate cost.

Pupils living over one mile from the schoolhouse in consolidated school districts are conveyed to and from school each day at the public expense. This feature at once eliminates any element of unfairness in the matter of taxes to the parents of pupils living furthest away. The expense is " pooled." Consolidation of schools, as it is known in Manitoba, has done much to prevent any spirit of sectionalism by broadening the outlook of the respective communities. The vans used for transporting the children are all well covered and protected from the weather, so that only in a few cases has it been found necessary to use foot-warmers. So successful has the plan proved that the attendance has greatly increased because of it.

Aside from the advantage of having the children at home every night and of having them in good care coming and going, a high-school education is also afforded by these consolidated schools. The large schools broaden the character and prevent selfishness; a healthy, active school spirit is manifest and all kinds of sports are carried on with zest.

WINNIPEG.

The capital of Manitoba is situated at the junction of the Assiniboine and Red Rivers, in the middle of a wide plain. The Red River Valley, being of exceptional richness, attracted the original traders. On that side of the junction of the two rivers where Verandrye—the first white explorer to visit the Red River—had, three-quarters of a century before this time, erected Fort Rouge, and where, a decade before that, the Nor'-Westers of Montreal had built Fort Gibraltar, the Hudson Bay Company added Fort Douglas, so called after the family name of Lord Selkirk.

After the rival fur companies' union in 1821, Fort Garry was built as a trading-post and settler's depôt, with a more elaborate structure, stone walls, bastions and port-holes. A short distance north of this fort, about the year 1860, the first house on the plain was erected, and the hamlet that collected was named after the big lake, 45 miles to the north—Winnipeg (Cree: Win—murky; nipiy—water).

The acquisition of Manitoba by the Dominion, and the influx of settlers from Eastern Canada, led to the greater importance of Winnipeg, as the new town was now generally called. In 1870, the first census was taken, and showed 213 persons in the village. Eleven years afterwards, in 1881, there were 7,985 people. Winnipeg has been an incorporated city since 1874. By leaps and bounds the city's growth has advanced. In 1891 the population was 27,068. In 1901 it had grown to 44,778, and during the five years from 1901 to 1906 the city more than doubled its population. This increase was chiefly due to immigration from Great Britain, other European countries and the United States. More than 20,000 of the present population of approximately 200,000 have come from the United States.

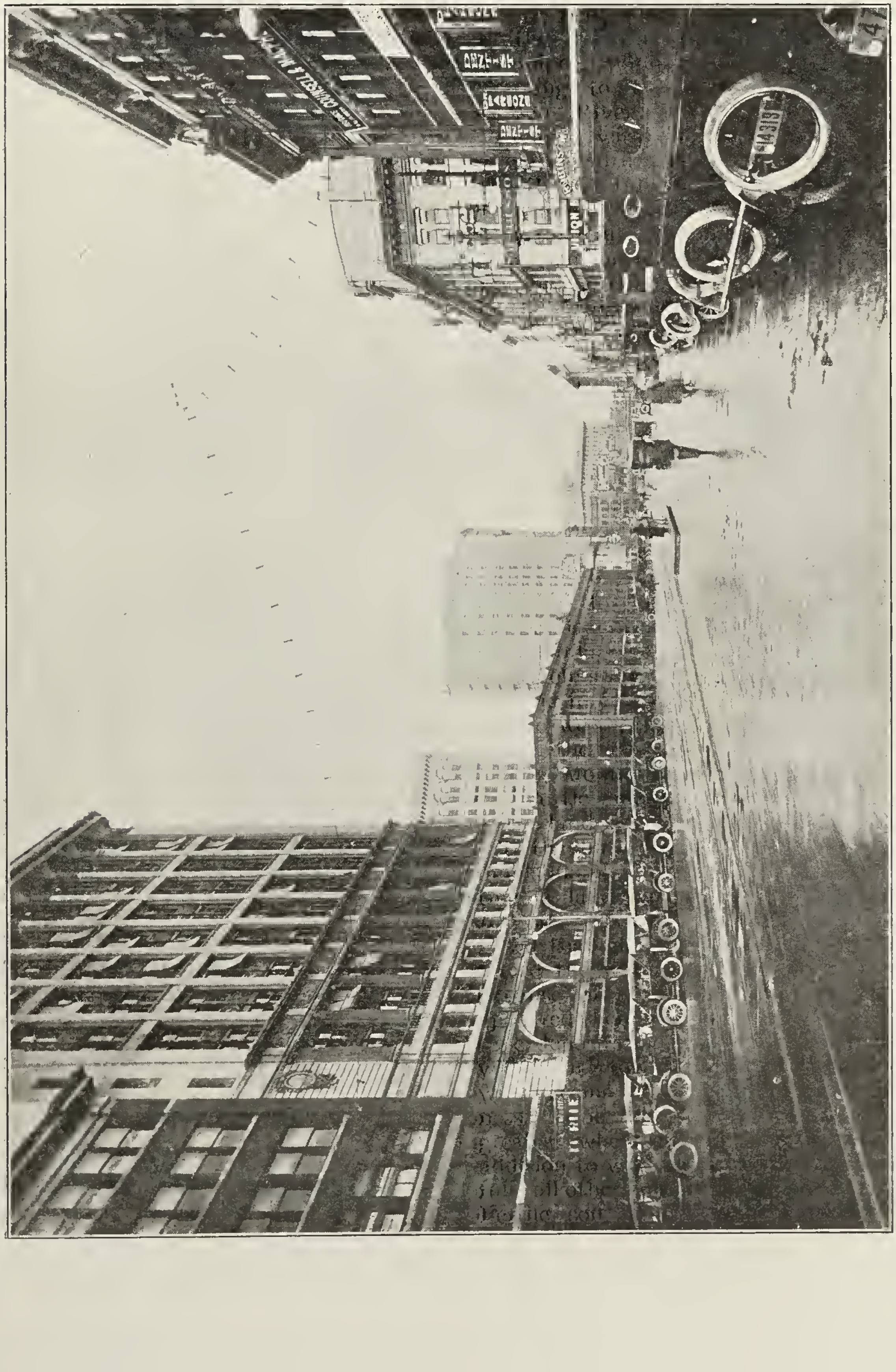
Geographically, Winipeg is situated almost half-way between the Atlantic and Pacific coasts of British North America, and 60 miles north of the boundary line between Canada and the United States. Politically, it is the capital of the Province of Manitoba, and commercially the leading city of Western Canada and the largest grain market in the world.

The government of the city is carried on under a charter from the Provincial Legislature. The council is composed of a mayor, four controllers forming the Board of Control, and fourteen aldermen. The mayor and controllers are elected annually by vote of the entire city. One alderman is elected annually from each of the seven wards into which the city is divided, and holds office for a term of two years. The mayor is chief magistrate of the city.

The city's public school system is well housed in buildings of the most modern and substantial construction. By an Act of 1890, and subsequent amending Acts, it is provided that all State-aided schools shall be non-sectarian. The school system is directed by a department of the Provincial Government, presided over by the Minister of Education. There are some thirty-seven schools, with an enrolment exceeding 22,000; also six parochial schools with 1,200 pupils, six colleges of the University of Manitoba, provincial agricultural college, academies, ladies' schools, free library, and other educational institutions.

The churches of Winnipeg have also kept pace with the city's growth, and there are now 123 churches of various denominations. All of these have been established since 1869. The bulk of Winnipeg's church-going population is divided between the Presbyterian, Anglican, Roman Catholic, and Methodist churches.

The city owns and operates its waterworks plant, street lighting system, stone quarry, fire alarm system, asphalt plant, and a high-pressure plant for the better protection of the city from fire. Winnipeg enjoys the distinction of being the first city in America to acquire a municipal asphalt plant. Winnipeg's municipally-owned hydro-electric light and power plant, completed at a cost of



PORTAGE AVENUE, WINNIPEG, CAPITAL OF MANITOBA

Photo C.P. Rly.

4,000,000 dollars, is now firmly established on a paying basis. This plant has reduced the cost of domestic lighting by 70 per cent. of the price previously charged. Cheap power and light from an efficient plant, make Winnipeg a particularly attractive location for the setting up of shops and factories for making goods that have been—and still are to a very great extent—brought in from manufacturing points 1,000, or more, miles distant. Winnipeg has now several hundred factories, the annual output of which exceeds £16,000,000.

The chief streets of Winnipeg are splendidly wide and smoothly laid in asphalt pavement, with granolithic sidewalks proportionate to the width of the carriage and traffic ways. Residential streets are " boulevarded," and have rows of trees on either side with asphalt pavement and granolithic walks, the whole giving a clean and pleasant appearance. Winnipeg's parks, natural and artificial, are true beauty spots, and cover 520 acres, carefully tended by competent men. There are eight theatres ; three or four of the larger houses are sufficiently enterprising to secure some of the best touring companies on the American continent.

Winnipeg is very important as a railway centre. The Canadian Pacific, the Canadian Northern, the Grand Trunk Pacific, the Great Northern, and the Northern Pacific have made great progress in the work of affording adequate transportation to Western Canada. All of these roads centre at Winnipeg, and no railway company would think of trying to pass through any part of Western Canada from east to west, or from south to north (except in the far western part), without touching the prairie gateway city. No traveller thinks of visiting any part of the Canadian North-west without making Winnipeg one of his principal stopping places. Merchants, manufacturers, capitalists, mechanics and immigrants of all kinds—in short all sorts and conditions of men who decide to make their home in Western Canada come in the first place to Winnipeg and frequently make it their headquarters.*

MAIN STREET, WINNIPEG *Photo, C.P. Rly.*

THE PRAIRIE AIR MAIL.

There is a daily trans-prairie air mail service between Winnipeg, Calgary, Edmonton and Regina. The 777 miles journey from Winnipeg to Calgary is performed during the night.

The other important cities and towns are Brandon, Dauphin, St. Boniface, Portage la Prairie, Gretna, Selkirk, Carberry, Morden, Neepawa, Manitou, Louris, Verden, and

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* From an official report by Charles F. Roland, Industrial Commissioner.

Minnedosa. (See *Gazetteer of Cities and Towns.*)

Province of Saskatchewan

This province lies between the 49th and 60th parallels of north latitude, and between the meridians of 102° and 110° west from Greenwich ; or, more familiarly, its southern border is the international boundary, the dividing line between Canada and the United States. South of Saskatchewan are the States of North Dakota and Montana ; east of it is the Province of Manitoba ; west of it is the Province of Alberta, and on the north and north-east it is bounded by the North-West Territories. Its greatest length is 760 miles ; and its width in the south is 393 miles. At the middle it is 300 miles wide ; and at the northern boundary it has a width of 277 miles. The area of this great quadrangle is 251,700 square miles, of which 13,725 square miles is water.

HISTORY.

On 2nd May, 1670, Prince Rupert presented himself at Whitehall and received from the hands of King Charles II the Royal Charter incorporating himself and the seventeen nobles and gentlemen, with their heirs and successors, under the name of " The Governor and Company of Adventurers of England trading into Hudson's Bay." This was the beginning of the famous Hudson Bay Company. Between 1733 and 1743 occurred the discovery and exploration of the western prairies by Pierre Gaultier de Varennes, Sieur de la Verendrye, and his three sons ; and the construction of the following forts :—

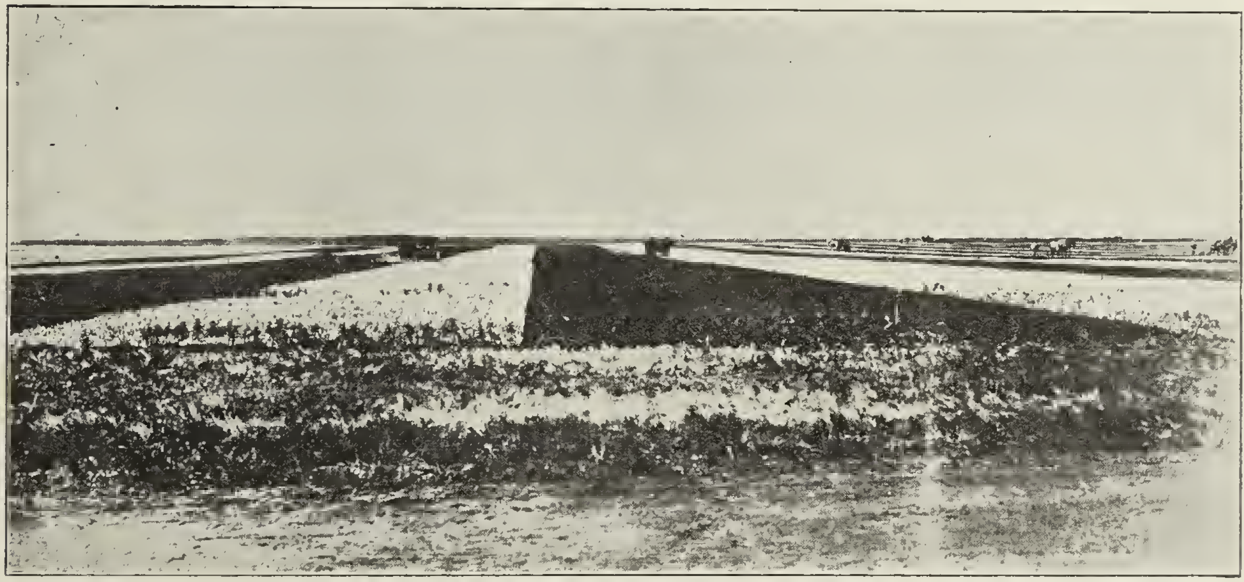
Fort St. Pierre, on Rainy Lake.

Fort St. Charles, on Lake of the Woods.

Fort Maurepas, near the mouth of Winnipeg River.

Fort Dauphin, north-west extremity of Lake Manitoba.

Fort Rouge, at the confluence of the Assiniboine and Red Rivers.



MILE-LONG FURROWS *Photo, C.P. Rly.*

Ploughing on the Open Prairie

Fort La Reine, on the site of the present town of Portage la Prairie.

Fort Poskoyal, on the Saskatchewan River.

Fort Lacerne, at the fork of the Saskatchewan River.

By the Treaty of Utrecht, Hudson's Bay and the adjacent territory, including Saskatchewan, Nova Scotia, and Newfoundland, were ceded by France to England ; and on 10th February, 1763, the Treaty of Paris was signed, by which France ceded and guaranteed to His Britannic Majesty in full right " Canada with all its dependencies."

The first white men to behold the Rocky Mountains were the younger son of Pierre de la Verendrye, known as the Chevalier, and

THRESHING-TIME ON THE PRAIRIE *Photo, C.N. Rlys.*

two companions, who, however, were forced to return owing to the desertion of their Indian guides.

The history of the extension of British influence, control, and industry from maritime Canada into the Central Provinces and the North-West Territories is as follows :—

1863 (July 31).—The Rupert's Land Act passed by the Imperial Parliament, providing for the acquisition by the Dominion of Canada of the North-West Territories.

1869 (June 22).—Act passed providing for the government of the North-West Territories.

1869 (Nov. 19).—Deed of Surrender of Territories signed by Hudson's Bay Co. to Her Majesty.

1870 (July 15).—North-West Territories (including Saskatchewan) added to the Dominion of Canada.

1874.—North-West Mounted Police established with a strength of 300 at first ; increased to 500 in 1882, and to 1,000 men in 1885. Headquarters in 1875 were at Fort Walsh.

1875-77.—The North-West Territories Acts passed (8th April, 1875, and 28th April, 1877), placing Rupert's Land and the North-West Territory (except such portion as was then forming the Province of Manitoba) under the jurisdiction of a Lieutenant-Governor, separate and distinct from Manitoba.

1876 (Oct. 7).—Hon. David Laird appointed as first Lieutenant-Governor of the North-West Territories. Prior to this appointment, the Lieutenant-Governors of Manitoba were *ex-officio* Lieutenant-Governors of the North-West Territories.

1880 (Oct 21).—Contract signed for the construction of the Canadian Pacific Railway.

1881 (May 2).—First sod turned for the Canadian Pacific Railway.

1882 (Aug. 23).—First train to reach Regina (now capital of Saskatchewan).

1885 (Nov. 7).—Driving the last spike of the Canadian Pacific Railway.

1876-87.—From the organisation of the Territories, under the Acts of 1875 and 1877, the country was administered by the Lieutenant-Governor, with the aid of a council composed of such persons appointed from time to time by the Governor-General, not exceeding in the whole five members, of which number the stipendiary magistrates appointed for the administration of justice were to be members *ex-officio*. The Acts further provided for the election of members by the people in districts not exceeding 1,000 square miles, having a population of 1,000 souls or more.

There were nine sessions of the council, the first being held at the residence of the Lieutenant-Governor at a point named Livingston, on Swan River, 10 miles north of Fort Pelly, being the temporary headquarters of the Government and of the North-West Mounted Police. The following members composed this council, and were all present : His Honour David Laird (Lieutenant-Governor) ; Matthew Ryan and Lieutenant Col. Hugh Richardson, stipendiary magistrates and *ex-officio* members of council ; Lieut.-Col. Jas F. McLeod, C.M.G., Commissioner of R.N.W.M. Police, and appointed a member of council.

The second, third, and fourth sessions of the council were held at Battleford. Mr. Lawrence Clarke (of Carlton) was the first popular representative in the council, and took his seat in this fourth and last session held at Battleford. The remaining sessions were held at Regina, with a largely increased number of elected members.

1878 (Aug. 25).—First number of *Saskatchewan Herald* issued at Battleford, being the first newspaper published in the North-West Territories.

1878 (Oct.).—Arrival of Lieutenant-Governor and other Government officials at Battleford.

1881 (Aug. and Sept.).—Visit of the Marquis of Lorne as Governor-General to Manitoba and the North-West Territories.

1882 (May 8).—Provisional districts of Assiniboia, Saskatchewan, Alberta, and Athabasca created.

1883 (May).—Removal of seat of Government from Battleford to Regina.

1885 (Mar. 22).—Outbreak of rebellion in the North-West. Commencement of hostilities at Duck Lake.

1885 (April 2).—Massacre of Frog Lake.

1885 (April 24).—Engagement at Fish Creek.

1885 (May 12).—Battle of Batoche and defeat of the rebels.

1885 (May 26).—Surrender of Poundmaker.

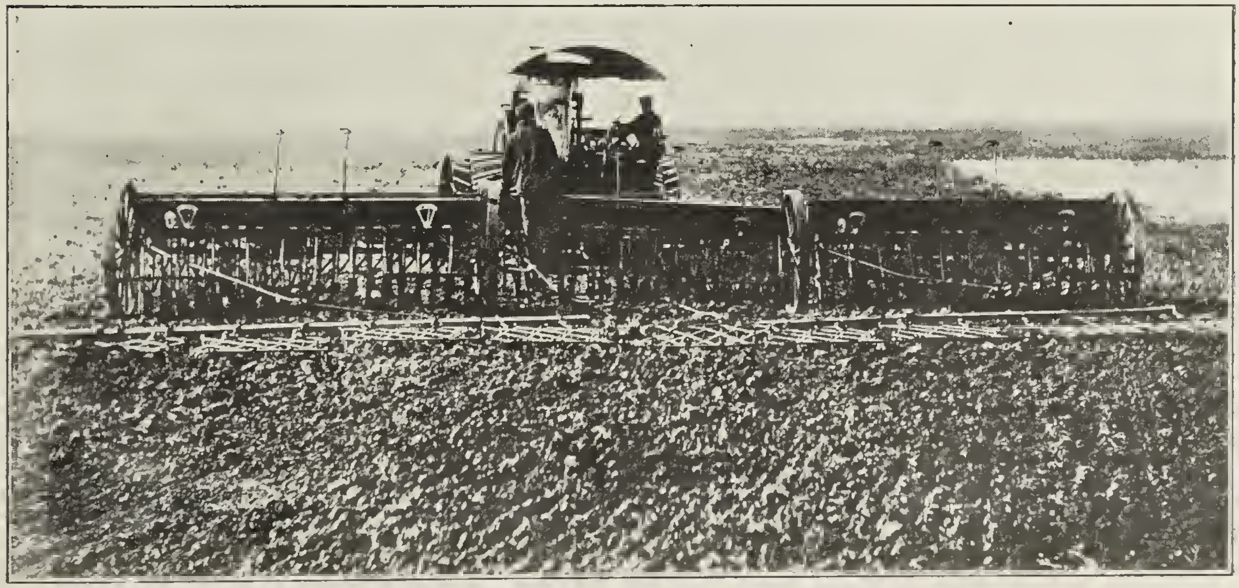
1885 (July 2).—Final suppression of rebellion by capture of Big Bear. Total loss of Militia and Volunteers killed, 38 ; wounded, 115.

1885 (July 20).—Trial of rebels commenced.

1885 (Nov. 16).—Execution of Riel.

1886.—Act passed giving the North-West Territories representation in the Senate and House of Commons.

1888.—Abolition of North-West Council and substitution for it of an assembly of twenty-two members.



SEEDING IN SASKATCHEWAN *Photo, C.P. Rly.*

1888 (Oct. 31–Dec. 11).—First session of first Legislative Assembly.

1891.—Responsible government granted to Territories.

1901 (Sept. 27).—Visit of their Royal Highnesses the Duke and Duchess of York to Regina.

1871.—Population of Manitoba and N.W. Territories (including Saskatchewan), 18,000.

1891.—Population of North-West Territories, 67,000.

1905. — Population of Saskatchewan, 257,763.

1911.—Population of Saskatchewan (according to census), 492,432.

1921.—Population of Saskatchewan (according to census), 757,510.

1929 — Population of Saskatchewan 866,700.

The latest of many important changes which have occurred in the composition of the Central Provinces of Canada was the incorporation of certain parts of the organised North-West Territories. This change took place in 1905, when the districts of Assiniboia, Saskatchewan, Alberta, and Athabasca were consituted the provinces of Alberta and Saskatchewan, and were given self-government similar to that enjoyed by the older Canadian Provinces.

The remarkable progress of these Provinces, which previously to September, 1905, had a common history, and the conditions that now obtain, might almost lead one to regard them as having been for a long time in the advanced state in which the traveller now finds them. The evolution of conditions has, however, been rapid. As recently as fifty years ago this vast prairie region was the home of innumerable wild animals and bands of untamed Indians. The lordly bison, the hungry wolf, the cunning fox, the skulking coyote, the treacherous lynx, the timid badger, the industrious beaver, and many other species of wild animals, were found in their native haunts and supplied the nomadic Indian tribes with a means of livelihood.

A RIDER OF THE PLAINS *Photo, C.P. Rly.*

One of the Royal Canadian Mounted Police, whose headquarters are at Regina, Saskatchewan

The scene is changed. No longer does the bison roam the prairie. The few survivors of the countless herds whose gallop sounded like distant reverberating thunder are confined to the national parks and forest reserves, where they are protected by the Government, and are objects of undisguised interest to the descendants of the white man by whom so many of them were ruthlessly destroyed. The red man, who regarded the broad expanse of plain and the endless winding river valleys as his by right of inheritance, has been retired to the Indian reserve, where the remnant of a once numerous race follows a more prosaic existence than did his native ancestor, and now endeavours, not unsuccessfully, to imitate the customs of his pale-faced brother. The plains on which the buffalo thrived before the advent of the white man and the fatal Winchester, now support herds of cattle and horses. The domains of the Sioux, the Cree, the Ojibwa, and the Chipewyan, have become the home of farmers from all parts of the world ; and the cosmopolitan population gathered here under the sheltering folds of the Union Jack has demonstrated the fertile broad acres to be the granary of the Empire.

THE PROGRESS OF THE WEST.

Since the organisation of the province, in 1905, Saskatchewan has enjoyed unexampled prosperity, and has far outstripped its sister provinces in ratio of increase of settlement and general development.

The Province produces more foodstuffs of various kinds, *per capita*, than any other half million of people that can be named. Moreover, the fertile area from which the result is produced is only 11 per cent. of the arable land within the boundaries of the province. In grain alone, Saskatchewan produces about 220,000,000 bushels of wheat a year. The average annual value of the agricultural products amounts to £74,000,000. The game and furs produce £400,000, and the poultry £2,000,000 a year. The live stock in the province include 1,200,000 horses, 1,420,000 cattle, 140,000 sheep, and 600,000 pigs.

There are in this province three railroads competing for business, with a mileage of over 7,400. This is a long step in advance from the time when the Canadian Pacific Railway wound its solitary way across the plains. There is no country where the farmers are better organised for the protection of their own interests than here. They have the Grain Growers' Association and the Saskatchewan Co-operative Elevator Company. Both of these look after the interest of the grain raiser in every way, and the latter Company, aided by the Provincial Government, have relieved the farmer from his former almost intolerable position, when he was at the mercy of the line elevator owners, both as to the grading and price of his grain, and also suffering from his inability to get cars from the railways in which to load his grain for transportation at the sidings and platforms. Then there are horse, cattle, sheep, swine, and poultry breeders' associations, and numerous agricultural societies, all of which are liberally aided by the Provincial Government in their work of improving the various breeds of animals and in inculcating the most scientific and modern methods of farming in the minds of both old and young agriculturists. Prior to the establishment of the Agricultural College at Saskatoon, many young men were sent to the colleges at Guelph and Winnipeg, earning scholarships paid by the Government. Farmers' daughters, too, were sent by the Government to be instructed in domestic science.

A great proportion of the country has now been formed into rural municipalities, who spend the money raised by taxation themselves, and, with the aid of Government grants, build roads and bridges. The capital invested in manufacturing undertakings amounts to about £8,000,000, and the value of the products to between £10,000,000 and £12,000,000 a year. With modern facilities and the best of machinery at his disposal, with 85 per cent. of the arable land still uncultivated, with the best blooded sires for his livestock, and all his interests well protected by the Government, the Saskatchewan farmer has reached a point where his position must be the envy of agriculturists the world over.

It has been said that the wealth of the farmer makes the wealth of the community, and this must be especially true as applied to this province, for there has been established such a foundation of agricultural resources as must tend to enrich any and all of the population.

There are beds of valuable coal for the operation of any kind of industry requiring steam or electrical power. Water-power also is available in many places, particularly in the north, where the rapid-running Saskatchewan River and other streams are found. The finest kind of clay for brick or tile-making is quite abundant. Minerals of great value are not lacking, there being large iron ore deposits in many places as well as aluminium. The more northerly portion of the country has not yet been at all well prospected, and it is expected that much mineral wealth will be revealed. The average annual output is about £350,000.

SCENERY.

The general impression that seems to prevail in the minds of those who have passed through the country on one of the transcontinental lines is that Saskatchewan is a flat, treeless expanse. As a matter of fact, there is a large variety of country; open plain, flat and undulating; park land, and valleys beautifully wooded, in the heart of which nestle lovely lakes, drained by winding creeks. Even in south-eastern Saskatchewan which, for the most part, is open plain, there are beautiful valleys, the most picturesque of which is the Qu'Appelle. Saskatchewan is really a country of open spaces which consist of either flat or undulating prairie intersected with stretches of brush and timber. It is impossible to go more than forty or fifty miles in any direction without striking timber of some kind, while a large portion of the northern settled section around Prince Albert and Battleford is park country; that is to say, open spaces dotted by bluffs or copses and giving to the country somewhat the appearance of an English park.

The western part of the second, and the eastern portion of the third Prairie Steppe, form the physical division of land in which Southern Saskatchewan is outlined. Above the rolling prairies are extensive forest tracts

THE SASKATCHEWAN PRAIRIE *Photo, C.P. Rly.*

thinning off as the northern boundary of the province is approached. The North and South Saskatchewan Rivers, both of which have their source in the Rocky Mountains, the Qu'Appelle and Carrot are the chief streams, intersecting the province from west to east. The Qu'Appelle runs its whole course through a rich agricultural country, and the scenery along the river is very beautiful. This stream and the South Saskatchewan River divide Central from Southern Saskatchewan, while the North Saskatchewan River is the separating line between Central and Northern Saskatchewan, and is the mighty current which, with Lake Winnipeg, connects the capital of Manitoba with Edmonton, the capital city of Alberta.

The southern strip of this great province is very like the adjoining section of Manitoba—a more or less gently rolling prairie, generally bare of trees. As you go west along this strip you find yourself at last in a district where the rainfall is uncertain, this being the only part of the American desert which is found outside the United States. Even here, however, many men who have had experience of dry lands further south are confidently making homes for themselves. The south-east of the province is a magnificent wheat region, and in the south-west, too, given sufficient rainfall, the grain-grower has nothing to complain of.

A little further north we come into the park lands ; and well they deserve their name. Even here there is plenty of open prairie, where the new settler can put in his plough and run a long furrow without having to clear anything away first ; but there are also innumerable little " bluffs " or coppices of birch and poplar, which are uncommonly useful, not only in providing the stock of fuel, but in sheltering the house and cattle, and to some extent the crops, from the wind. Here there is always plenty of rain, though not too much for pleasure. The country is dotted with lakes and creeks.

Saskatchewan's soils are among the richest in the world. Nature in her younger days was very kind to Western Canada, inasmuch as the lakes of the glacial age, which covered the plains, deposited the silts and sediments which now form the heavy rich loam on the clay sub-soils, which combination makes it the most fertile land in the world. The soil is exceedingly rich in nitrogen, potash, lime, and phosphoric acid, the chemical properties most desirable in every way.

CLIMATE.

The climate of Saskatchewan is marked by the striking contrast of two seasons only, winter and summer, bringing with them the alternation of fruitful labour and of an enforced repose that is divided between profitable industry and pleasure. Spring opens at nearly the same time all over the country. Early in April the alders and willows are in leaf, and the eastern anemone covers the southern expanse to the verge of the Arctic circle. There is more summer heat in May than in the eastern provinces. The nights, however, are cool, and throughout the period of greatest heat, in July, the cool night breezes beget a welcome and refreshing change, often accompanied by dews. This protects the cereals from the effects of drought even in dry seasons, and produces a rich growth of prairie grass. The winters are undoubtedly cold and long, but on the whole they are health-giving, agreeable, and singularly steady. The atmosphere and the snow are alike dry. The snowflake is hard and gritty and can be brushed off clothing like dust. No thaw, strictly speaking, takes places until spring except on the rare occasions of a chinook, that is, a south-west wind. Usually spring advances very rapidly, for though the mean temperature during April and May may be in the neighbourhood of 37°, the average daily maximum would be at least 30° to 40° higher. While the annual precipitation is comparatively light, the greater part of the rain falls during the growing season, and hence is particularly effective agriculturally. The distribution has been found one that is well adapted to the production of the highest quality of wheat.

FARMING IN WESTERN CANADA.

The importance of this industry not only to the Prairie Provinces and the Dominion but also to the whole Empire is such as to warrant the inclusion here of a more detailed study of methods and conditions in the Canadian West. With a wheat crop greater than that produced by the remainder of Canada, and greater than the greatest crop of any small grain produced by any of the States of America, the Province of Saskatchewan would appear to have reached its climax in grain production, but when it is considered that only a small percentage of the arable land in the southern half, or settled portion, of the province is under cultivation, Saskatchewan can confidently look forward to making a record in grain production within the next decade. It is not in wheat alone that the increase in yield has been so great. The average value of the field crops increased from £25,000,800 to £50,193,076 in the ten years ending 1922, and had reached £74,000,000 by the year 1929. From these few facts the present position and future possibilities of agriculture in the West will be better understood.

There are a large number of flour mills, and, as a rule, prices for milling grain are better at these points than elsewhere, but the mills take only a small portion of the wheat, by far the largest part being exported to the United States and Great Britain. England being the world's greatest market, prices are to a large extent determined by values on the Liverpool grain exchange. All Saskatchewan grain is sold according to the grades established by Dominion law. The inspectors, who are Government employees, decide the grade of all Canadian grain passing out of the country. The handling and marketing of grain is a subject which has received the special attention of both Federal and Provincial Governments during recent years. Under the Dominion Grain Act, a commission of three members was appointed to administer the Act. They have the same extensive jurisdiction over transportation, inspection, and interior and terminal storage of grain, that the railway commission has over railways. They may also, with the consent of the Government, and on an appropriation being made for the purpose, lease, purchase, or expropriate existing terminal elevators, or build new ones, should it be necessary to do so in order to protect the integrity of the grade certificate which has been placed upon the grain by the Inspection Department.

IN THE LAND OF THE BROAD HORIZON
Cattle Ranching on the Western Prairie

STOCK RAISING IN WESTERN CANADA

Photo, C.P. Rly.

A large portion of the grain grown in Saskatchewan is handled through the interior elevators, situated at country points, which are owned by grain dealers, milling companies, and farmers' societies. All grain dealers in the province must be licensed and bonded, thus securing the farmer against loss through either dishonest intention or financial embarrassment of the dealer.

There are few stations in Saskatchewan at which there are not one or more elevators. A farmer may deliver his wheat to the elevator and receive cash for it ; or if he prefers to hold his wheat for a time with a prospect of obtaining a better price for it, he may store it in the elevator and secure a storage ticket setting forth that he is entitled to a stated number of bushels of wheat of a certain grade ; or, if he prefers to load his grain into a car without dealing with the elevator he may do so. Loading platforms on which the farmer may drive with a cargo of wheat and load directly into the car, have been erected at nearly all shipping points in order to facilitate the handling of grain, and to give to any farmer having even a few hundred bushels of grain to sell, the privilege of an alternative method of shipping.

The conditions under which grain matures in Western Canada are different from those of the States to the south. Being much farther north, the season is shorter ; but to make up for the short season the days are longer. In June one can read without artificial light from 3.30 a.m. until 9.30 p.m. The average precipitation in Saskatchewan is 17 in. per year, with 12½ in. during the growing season. Consequently a modification of the dry farming system is employed, and the most successful crops of wheat are grown on land ploughed in June or early in July, and disced, dragged, and rolled, thereby thoroughly eliminating weeds and conserving the moisture. Then for the next two or three years crops are grown. The second and third crops on this summer fallow are produced with large profit.

The breaking of the prairie and the planting of crops are done in various ways. The settler with limited means, farming *a quarter section*, often breaks with an ox team until he can better afford to invest in horses. Those who are farming on a big scale, and breaking large areas, use power. Very little of the land has to be cleared, as by far the larger area is open prairie. Park land, so-called from the clumps of small poplars and willows growing in groups, are found in some localities, but this bush is small and easily cleared. (See *Agriculture*).

RANCHING IN WESTERN CANADA.

The native grass that sustained the millions of buffalo, antelope, elk, and moose that formerly roamed the prairies, still remains, and is available to-day for the stock of settlers. It is the richest native fodder known. In the opinion of experienced stockmen cattle can be developed earlier on the Western Canadian prairies than anywhere else. Each year thousands of two-year-old steers are imported into Saskatchewan from Texas and other western States of the Union and placed upon ranches in this province. When in prime condition they are shipped back to the Chicago stock market as beef cattle. While the live-stock industry has not kept pace with that of grain growing the farmers and stockmen are beginning to recognise their opportunities and are improving their beef and dairy herds. Stock breeders' associations have been organised. The Government maintains a livestock department, under the direction of a commissioner, and inspectors at the principal shipping points to guard the interests of the cattle men during the shipping season. Less than 16 per cent. of the arable land in the southern half, or settled portion of the province is under cultivation, and nearly all of that at present being alienated combines both grazing and farming land.

Whilst large areas, particularly in the south and south-western part of the province, are pre-eminently adapted to ranching, yet the day of the rancher in Saskatchewan is practically over. The large number of settlers and homesteaders that annually enter the province are gradually reducing the grazing lands until at the present time the industry is by no means extensive, and within a decade or so, at the present rate of settlement, will probably cease to exist entirely. This situation is not without its drawbacks as, whilst the large herds and flocks are being scattered, the average farmer has not yet begun to keep stock in quantity sufficient to make up the deficit, and consequently the numbers of livestock in the province are not, numerically, developing proportionately with the grain growing section of the agricultural industry. A healthier state of affairs is, however, being established ; larger numbers of the small farmers are going in for stock and the demand for pure-bred sires of every class and breed is greater than ever before. The dairy industry is also being firmly established in many sections, largely assisted by the Government creamery system, and the infusion of pure-bred dairy stock from Eastern Canada. Some parts of the province are especially adapted to dairy farming, which is becoming more and more popular, especially in the east, central and north-western portions. Owing to the large and steady increase in population the demand for all classes of livestock has increased tremendously. This has had the effect of giving a steadier market with a higher average price.

Saskatchewan has a total land area of 155,764,100 acres, of which about 75,216,863 acres have been surveyed. This latter area is divided as follows :—

	Acres.
Area under homesteads (including military headquarters)	26,000,000
Area under pre-emptions and purchased homesteads	5,400,000
Area under N.W. Half Breeds Scrip, sales, and special grants	2,245,000
Area granted to railway companies	15,177,063
Area granted to Hudson Bay Co.	3,179,000
Area of School Land Endowment	3,917,600
Area sold under irrigation system	72,500
Area under timber licences	385,000
Area under grazing leases	1,700,000
Area reserved for forestry and other purposes	2,000,000
Area available for entry	9,100,000
Area of forest reserves and parks	1,170,800
Area of road allowances	1,451,100
Area of parish and river lots	82,200
Area of Indian reserves	1,171,900
Area of Indian reserves surrendered	307,700
Area of water-covered lands (surveyed area)	1,857,000
Total surveyed area	75,216,863

IMMIGRATION.

One of the most extraordinary things about the immigration which is pouring into Saskatchewan is the great mixture of nationalities of which the population is being made up. Every nation in Europe sends its representatives, many of them endowed with nothing but their brawny muscles, and a strong determination to " make good " in the country of their adoption. The continental immigrant finds new habits, new customs, a new language and everthing to handicap him heavily at the outset. The Galician, the Austrian and the Pole generally get work on some of the vast amount of railroad construction, and settles down into his place with a praiseworthy desire to give up his old customs and become a Canadian. They have, as a rule, no very definite destination, stopping wherever opportunities seem best. Large numbers of Americans have arrived of late years. Many of these, having sold their holdings in the States, arrive here well equipped for their new venture with money, stock and implements, and soon make their way, being already farmers. From the British Isles, but few of the immigrants are farmers, the majority being tradesmen or professional men of one sort or other—an army chiefly from the middle class, with an ambition of finding a home where their efforts will be justly rewarded. This miscellaneous collection of peoples is slowly being woven into the fibre of a nation, and must result in the formation of a strong industrious, and enterprising people.

The labour market, generally, is divided into three classes, viz., farm labour, artisan, and unskilled labour. In the past, farm labour, including both outside and domestic help was about the only class of labour in constant demand, but the great industrial and mechanical development of recent years has created a small but ever growing demand for labour in the various classes of the building trades, also unskilled labour in the cities, railway construction and logging camps.

Farm work, however, still furnishes the most important and regular market in Saskatchewan for labour. Men are employed in many cases for the whole year, but some farmers who have not work for men throughout the whole twelve months engage them only for the crop season, or from April to October. During these months the crops are grown, harvested and threshed, and many farmers are able before November to market the greater part of their grain.

In the seven cities and the larger towns there is, during the spring, summer, and fall months, a demand for artisans and mechanics of the building trades. This demand, however, is by no means steady or regular, but fluctuates according to the general conditions controlling the building season, therefore, artisans and tradesmen contemplating coming to Saskatchewan would do well to first obtain reliable information as to the conditions then prevailing in their respective callings.

NATION-MAKING.

The general conditions surrounding labour in Saskatchewan are very favourable. A Factories Act is in force which ensures the safety, comfort and health of all employees in factories. Saskatchewan has also recognised the principal of compensation for workmen for injuries, and has recently placed upon her statute books an Act giving effect to this principle. A Bureau of Labour has been established. Its object is to collect information and statistics relating to employment, wages, and hours of labour, strikes, or other labour difficulties, co-operation, trade unions, labour organisations, the relations between capital and labour, and other subjects of interest alike to the employers and employees of the province. This bureau will also supply any and all information to those who make inquiry regarding any phase of the labour question in Saskatchewan.

The securing and distribution of harvest labourers is an important branch of the activities of the Bureau of Labour. Acting in co-operation with the railways, each year thousands of harvesters are secured for Saskatchewan farmers, very many of whom afterwards become permanent settlers.

From the earliest days of the history of this province, legislation has kept pace with the needs of the rapidly-growing community, and a brief sketch of the progress made in this direction is not without interest.

Immigration followed the lines of railway. Settlements grew into villages, and villages into towns and cities, so that the demand for suitable government soon asserted itself. This was met by proper legislation, and as those towns and villages increased in number and size they were gradually entrusted with greater powers, until now they have a measure of self-government equal to that of any country in the world.

WINTER SPORT ON THE PRAIRIE *Photo, C.N. Rlys.*

Early in history we find the germs of a judicature ordinance, and a Supreme Court for the Territories was organised. The civil law is based upon the common law of England, with such slight modifications as would naturally suggest themselves owing to the different conditions. The legislative problems presenting themselves to the notice of the administration of a new country, a nation, as it were, in its embryo stage, were such as would naturally arise from the conditions in which the people found themselves, and the acts and ordinances which followed were often the result of suggestions made by the people.

The registration of deeds, the form of indentures, the administration of justice, including the appointment of justices of the peace in and for the Territories, the protection of the property of married women, the exemption of certain property from seizure, mortgages, workmen's liens, and many other kindred matters, were dealt with from time to time, including the regulation of the legal and medical professions. A Board of Education was organised consisting of the Lieutenant-Governor and four members.

Under the old North-West Council a statute labour ordinance was enforced, in order to provide for local improvements, and under this ordinance the cost of these improvements could be paid for in labour instead of money. It had been the custom to vote an equal sum of money to each electoral district for public improvements, which sum was expended under the supervision of the individual member for the district. Later, the various departments of the public service were organised, and through the Department of Public Works improvements were carried out where they were most needed.

One of the first matters dealt with by the North-West Assembly, which replaced the North-West Council in 1888, was the liquor traffic. At one time the prohibition of the manufacture, importation and sale of intoxicants was in existence, and liquor was only procurable by permits issued by the Lieutenant-Governor. Here, as elsewhere in the world, this did not work well, and later a licensing system was resorted to.

Other subjects for domestic legislation included ordinances dealing with marriage, ferries, bridges, infectious diseases, prairie fires, noxious weeds, hotels and boarding houses, gambling, billiard licences, fences, agricultural societies, the holding of agricultural exhibitions, stock associations, the herding of cattle and the grazing of sheep. A system of brands and their registration was formulated by the Department of Agriculture, agricultural societies were organised, and steps taken to improve the breeds of stock and seeds of cereals.

The past has witnessed wonderful progress and development. Many measures of far-reaching importance have been moulded into law, Government machinery has been organised and perfected, and the foundations of provincial institutions have been laid.

During the first few years of the province's existence, a vast amount of necessary legislation was put through. A few of the more salient features of the legislation which have been enacted include the organisation of the provincial courts, supreme and surrogate ; registration of real property ; municipal legislation for the creation of cities, towns, villages, and rural municipalities ; the establishment of high schools, collegiate institutes ; the formation of public libraries ; the creation of the University of Saskatchewan ; free text-books ; the Supplementary Revenue Act ; redistribution of provincial constituencies, election law, taxation of all corporations and railway companies ; telephones, public health ; mechanics', woodmens', and threshers' liens ; seed grain ; wolf bounty ; hail insurance, and co-operative associations.

There are four Acts now in force looking to the security of employees and the protection of their wages. The Masters' and Servants' Act not only practically guarantees the wages of the employee, but also gives him a means of redress in case he is ill-used or wrongfully dismissed. The Mechanic's Lien Act gives him a lien for his wages against any building on which he may have been employed, and also on the land on which the building is erected. The Woodmen's Lien Act gives the employee a lien on the logs or timber of the lumbering company. The Threshers' Employees Act gives him a claim on the money earned by the threshing machine, which takes priority over every other claim.

All the industrial legislation of Saskatchewan is modelled with the intention of surrounding the worker with all possible safeguards and privileges, and the Factories

Act is no exception to the rule. No child under fourteen years may be employed in a factory, no youth of less than sixteen, and no girl of less than eighteen years old may be employed in any dangerous or unwholesome factory, and no females or youths may work more than eight hours a day or forty-five hours a week.

The Workmen's Compensation Act is a step in advance of acts of a similar nature in force in other parts of Canada. It secures the right to compensation from employers for injuries suffered through accidents and the compensation is payable whether the injury is caused through negligence or not.

EDUCATIONAL SYSTEM.

Newcomers to this province need have no fear that the educational requirements of their children will be overlooked. New school districts are being created at a very rapid rate. The maximum size of the districts is 25 square miles, but the majority have an area of from 16 to 20 miles. There must be at least four residents in a district who would be liable to assessment, and at least twelve children between five and sixteen years of age. The schools are maintained by local rates and Government aid. The school work is divided into eight standards, of which the last three are mainly for preparing students for diplomas enabling them to take training at the normal school. After completing this normal school training, an interim certificate is given, which is made a professional teacher's certificate after one year's successful teaching. In 1907 the Secondary Education Act was passed, and as a result a number of high schools and colleges have been established, and each year sees the addition of several others to the number.

In the year 1909 the University of Saskatchewan was located at Saskatoon, and in the same year the College of Agriculture in connection was organised. In 1910 the educational work of the Department of Agriculture was transferred to the University. The chief aim of the college is to give students a practical training in all the various branches of agriculture, and also to give them such an

GOING TO SCHOOL ON THE PRAIRIE *Photo, C.P. Rly.*

education in other ways as to make them good citizens of the province. The college with its staff investigates all questions pertaining to soils, crops, livestock, dairying, and other agricultural matters, and issues the information thus gained to farmer's societies and associations all over the province. By means of the lecturers in its extension department valuable information is carried to the farmers, thus giving those even in the most remote districts a chance to learn of the work that is being done at the University. In order that the students may learn the best ways of handling livestock, fine horses, cattle, sheep, swine and poultry are kept. The farm machinery building is well equipped so that students may familiarise themselves with the latest types of implements, including petrol and steam-engines, the farm being large enough to permit of the use of these tractors.

The extension department provides judges for stallion shows, ploughing matches, good farming, and standing grain competitions, and for the agricultural exhibitions, giving lectures and information on all kinds of agricultural problems. In short, this department endeavours in every possible way to convey to the farmers of Saskatchewan the best information regarding the agricultural practices found by experience to be best suited to the conditions now prevailing in the province.

MINING AND TRANSPORT.

It has been ascertained by geologists and explorers that the rock formations in the far north of the province are similar to those that occur in the northern parts of Ontario, and therefore it may be assumed that similar discoveries of minerals are likely to be made in this province. Even now samples of ore have been brought from a district about 200 miles north of Prince Albert showing the presence of copper, silver, and gold. A valuable vein of gold has been discovered in the Beaver Lake district and many claims have been registered at the Dominion Land Office, Prince Albert. There are valuable deposits of pigments near Duck Lake. Good samples of ochres have been discovered at Cold Lake and also at Howell.

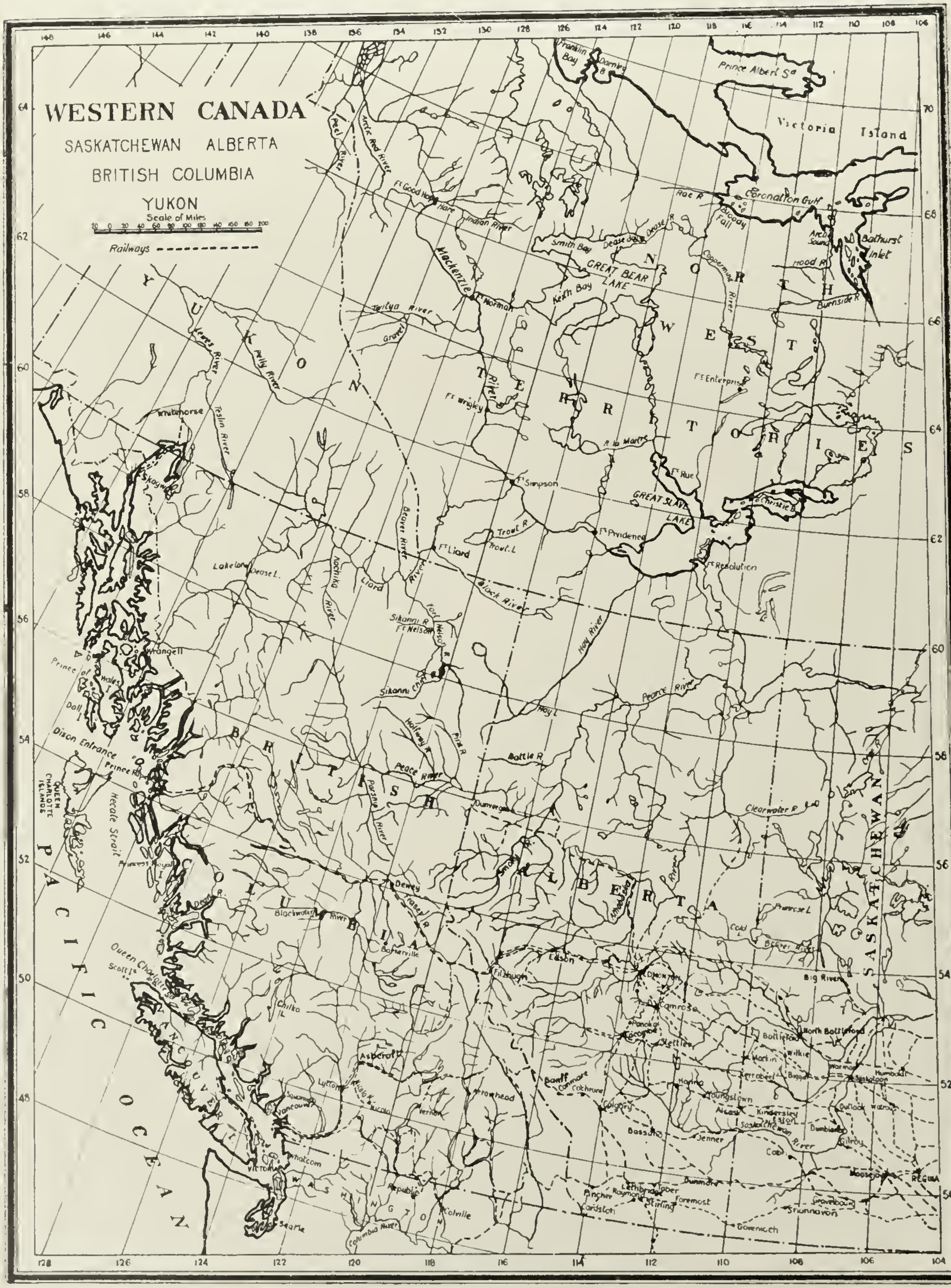
Coal-mining has, however, attained the greatest development of all mining industries, and the importance of the deposits are well recognised. A Government commission was appointed some few years ago to make thorough investigation, not only into the value and extent of the coal bearing fields, but also into the best means of rendering this resource commercially valuable.

For forty years the main line of the Canadian Pacific has crossed the Province of Saskatchewan from east to west, about 100 miles north of the border of the United States. Its most important branch is the "Soo" line from Moose Jaw to St. Paul, Minn., though its lines to Edmonton and Lacombe, Alberta—both progressive commercial points—are daily carrying more traffic and passengers. The main line of the Canadian Northern, from Winnipeg to Edmonton, crosses the entire province, the south-eastern portion being honey-combed by its many branches. The Grand Trunk Pacific line parallels that of the Canadian Northern at a distance of from fifteen to forty miles, and many additional offshoots from the main thoroughfare are contemplated.

The railroads are the pioneers in this vast area waiting to be awakened to productiveness, and settlement goes hand in hand with their extension into a new region. The province is so well served by the Canadian Pacific, Canadian Northern, and Grand Trunk Pacific that few of the established settlements are more than ten to twenty miles from transportation; new settlements do not have to wait long for railway advantages. The Hudson Bay Railway affords a short haul to ocean shipping from Saskatchewan grain fields.

REGINA.

The capital and seat of the Provincial Government of Saskatchewan is situated on the main line of the Canadian Pacific Railway, 357 miles west of Winnipeg (the capital of Manitoba). It is also a terminus of the Canadian Northern Railway's branch lines. The city, which is rapidly growing, has a population of about 40,000, and is situated in the centre of a fine agricultural district. The manufacturing industry is, however, not a very large one, but Regina is the commercial metropolis and distributing centre for the whole province. There are good educational facilities, including a collegiate institute and the Provincial Normal School. It is


WESTERN CANADA
SASKATCHEWAN ALBERTA
BRITISH COLUMBIA
YUKON
Scale of Miles
Railways
YUKON
NORTH WEST TERRITORIES
BRITISH COLUMBIA
ALBERTA
SASKATCHEWAN
PACIFIC OCEAN
Victoria Island
Prince Albert Sd
Franklin Bay
Coronation Gulf
Bathurst Inlet
GREAT BEAR LAKE
GREAT SLAVE LAKE
Mackenzie
Peel River
Arctic Red River
Ft Good Hope
Ft Norman
Ft Wrigley
Ft Simpson
Ft Providence
Ft Resolution
Ft Rae
Ft Enterprise
Ft Liard
Ft Nelson
Liard River
Peace River
Hay River
Athabasca River
Whitehorse
Skagway
Wrangell
Prince Rupert
Queen Charlotte Islands
Hecate Strait
Dixon Entrance
Prince of Wales I.
Queen Charlotte Sd.
Vancouver I.
Vancouver
Victoria
Seattle
Whatcom
WASHINGTON
Ashcroft
Lytton
Vernon
Arrowhead
Banff
Canmore
Calgary
Edmonton
Camrose
Stettler
Edson
Lethbridge
Cardston
North Battleford
Saskatoon
Regina
Moose Jaw
Shaunavon
Clearwater R
Big River
Columbia River
Colville
Republic

SPECIALLY DRAWN FOR THE ENCYCLOPEDIA OF THE BRITISH EMPIRE BY A.H. LEE.

REGINA, SASKATCHEWAN *Photo, C.P. Rly.*
One of the grain centres of the Western Prairie

the headquarters of the Royal Canadian Mounted Police, a force justly celebrated throughout the Empire. The city itself is being rapidly laid out and improved on the most modern lines, and there are many fine buildings, including hotels, clubs and theatres.

Next in importance to the capital comes Saskatoon, which is often called the Kansas City of Canada. It has about 32,000 residents, and is commercially and educationally important. Saskatoon is the seat of the University of Saskatchewan, and a railway centre. Its importance as a distributing and wholesale depôt is demonstrated by the large number of warehouses that have been erected.

Moose Jaw, with about 20,000 inhabitants, is a railway junction, the connections made there influence to a considerable extent the trade of large sections of the province. It has extensive stockyards, a terminal elevator of about 40,000,000 bushels' capacity which greatly facilitates the storage and movement of the heavy grain crops of the surrounding districts, and many good schools. It is a fine and rapidly growing city with all modern conveniences. The other important towns are Indian Head. North Battleford, Prince Albert, Swift Current, Weyburn, Estevan, and Yorkton.

Province of Alberta

This province lies directly east of the Rocky Mountains, and has an area of 255,285 square miles, or about 160,000,000 acres. Of this, there are 100,000,000 acres of excellent agricultural land. The population of Alberta at the commencement of the century was 73,000, but it has increased since then nearly 900 per cent. The census of 1921 gave the number as 588,454. By 1929 it had increased to 646,000.

HISTORY.

This province was created an autonomous political division of Canada in 1905, previous to which it was the "Far West" of the North-West Territories. In its earliest days of occupation by white men it was a valuable field of operation for fur-trading companies among which the Hudson Bay Company was dominant.

It was then known only as a remote portion of Rupert's Land. In 1835 a system of local government was established in this Western territory by the Hudson Bay Company. In 1869, the Company relinquished its charter and exclusive rights in Rupert's Land. This portion of Canada was then designated the North-West Territories, and a system of territorial government was organised, with a Lieutenant-Governor appointed from Ottawa. Later, the south-werstern portion of the Territories was named Alberta, one of the names of the Princess Louise, wife of the Marquis of Lorne, Governor-General of Canada at the time. In 1905, the name was continued when the present province was created out of the old provisional territorial districts of Alberta and Athabasca.

The Government is similar to that of other Canadian provinces. Laws governing trade and commerce, coinage, banking, military and naval defence, postal service, and the criminal statutes are enacted by the Dominion or Federal Parliament. The Provincial Legislature deals with all matters of a local nature, and the Government is responsible for the administration of criminal law.

Since autonomy, the Alberta Government has enacted up-to-date labour legislation, and has a vigorous and highly successful system of demonstration farms and agricultural training schools, not only for the farmers' children but, by means of travelling schools, for the farmer himself. The Province of Alberta is represented in the Federal Senate and House of Commons; its local legislature consisting of the Lieutenant-Governor with the Legislative Assembly.

BRANDING CATTLE ON AN ALBERTA RANCH *Photo, C.P. Rly.*

SCENERY AND CLIMATE.

The province comprises an area greater than any country in Europe save Russia. It lies between the 49th and 60th parallels of latitude, wholly within the North Temperate Zone. It is a vast sloping plateau, from 2,000 to 4,000 ft. above sea-level. The Rocky Mountains form its western frontier, and the 110th meridian west of Greenwich its eastern

THE ROCKY MOUNTAINS FROM THE ALBERTA FOOTHILLS *Photo, C.N. Rly.*

Pyramid Avenue, Jasper Park Lodge, one of the great natural parks in the Rocky Mountains (area 4,400 square miles)

boundary. Its principal characteristics may be roughly classified as open, treeless prairie in the southern portion ; park country diversified with trees and streams in the central districts, and, in the north, a country of wilder outline, varying from open prairie stretches to heavily timbered regions. Within this province lie the sources of two great river systems—the Saskatchewan, which waters the inland plains and unites with the Hudson Bay water system, and the Mackenzie, which empties into the Arctic Ocean and drains about 1,000,000 square miles of territory. Its two greatest arteries are, however, the Peace and Athabasca Rivers.

The distinctive physical feature of Alberta is the magnificent range of the Rocky Mountains, which forms more than half the dividing line between Alberta and British Columbia. This magnificent chain affords scenery unsurpassed even in the Alps, while from the eternal snows crowning its lofty peaks, flow great streams, providing water to the plains. The warm winds of the Pacific, sweeping through the many passes, moderate the climate in winter with the balmy " chinook." There are four principal rivers in the province all rising in the Rocky Mountains and flowing easterly or north-easterly. These are the South Saskatchewan, the North Saskatchewan, the Athabasca and the Peace. The North and South Saskatchewan Rivers, after crossing Alberta, join in Central Saskatchewan, and form the real Saskatchewan River, from which that province derives its name. The Athabasca and the Peace flow in a more northerly direction and empty into Lake Athabasca in the north-eastern corner of Alberta. Each of these rivers has, of course, a great number of tributary streams of various sizes, while throughout the province are found a large number of lakes, ranging in size from Lake Athabasca, 120 miles long, and Lesser Slave Lake, 60 miles long, to tiny ponds.

The province may be divided into three great belts or districts. The southern, the central and the northern.

The southern, or true prairie section, extends from the international boundary to about 100 miles north of Calgary, including the basin of the South Saskatchewan. This district consists principally of rolling prairie land, little timber being found. The altitude is high and the rainfall light. This is the great ranching country of Alberta, where herds of cattle and bands of horses feed the year round on the prairie. Of late years, however, farmers have commenced to settle in this district, large irrigation works have been constructed. On the land thus irrigated splendid crops of grain and vegetables of all kinds have been produced. Fall wheat has been found to thrive excellently in this section even without irrigation.

The central section extends from the Red Deer River, northward, including the basin of the North Saskatchewan, to the bight of land between this river and the Athabasca. The country here has a park-like appearance, consisting of areas of open prairie broken by clumps or stretches of woodland. The timber consists chiefly of poplar and spruce. This portion of Alberta is particularly adapted for " mixed " or general farming. Grain crops of all kinds yield abundantly ; spring and fall wheat, oats, barley, rye and flax being the most common. Besides the native grasses, themselves providing excellent fodder, timothy and clover are grown successfully. This makes the district especially favourable for stock of all kinds.

The northern district comprises the basins of the Athabasca and Peace Rivers. It is generally well wooded, though areas of park country, and even of open prairie, are found in several places.

The district contains an immense amount of valuable timber, the most common being the poplar and spruce. Owing to the lack of railroads this northern belt has not as yet been settled to any great extent, but the experience of the settlements which have been established is that the climate and quality of soil—vast tracts of it—are quite as favourable to successful and profitable farming, both grain growing and stock raising, as the central or southern districts.

Alberta's climate is one of the boasts of its residents. The altitude varying from 2,000 to 4,000 feet, ensures a dry, bracing quality of the air. The rainy months are June and July, very little rain falling at any other season. Winter sets in about the middle of November and breaks before the middle of March. Even in this season, the cold is not extreme for more than three weeks each winter. The snowfall is light, chinook winds coming through mountain passes from the Pacific bring in several quite warm periods during the winter season. They melt the snow on the ranges, and cattle usually pasture on the open prairies the entire winter. Spring and autumn are beautiful seasons.

AGRICULTURE.

The opening of the second decade of the present century saw less than 3 per cent. of Alberta's available agricultural land under cultivation. Each year, however, sees a growing number of settlers, and an increase of hundreds of thousands of acres in the area put under crop.

Wheat is more extensively grown in the southern districts than elsewhere. In central Alberta—the Park Country—mixed farming is the usual occupation of the agriculturist. Dairying and stock raising are carried out on more scientific principles yearly, and success in each is beyond question. Wheat, barley, oats, flax and rye are the principal cereals grown, the climate and soil of Alberta being particularly favourable for the production of spring wheat. The " Alberta Red " wheat of the southern section has carried off several international prizes, and has now a well-recognised standing in the world's markets as equal to the wheats grown in Hungary and Bohemia.

Alfalfa is produced in Southern Alberta to a large extent, two or three crops being taken from the land each season. Sugar beets (15 per cent. saccharine) are also successfully grown in the south, in the vicinity of the Raymond sugar factory. Field roots and vegetables give excellent yields in Alberta soil. A large tract of land—over 1,900,000 acres—of Southern Alberta has been put under a satisfactory irrigation scheme by the Canadian Pacific Railway Company. Other smaller irrigation systems exist.

Building material and fuel in unlimited quantities are procurable in the forests of Northern Alberta, for the timber lands extend hundreds of miles on the north side of the Saskatchewan River. The poplar, birch, pine, white and black spruce, Douglas fir and larch are among the trees contained in these great forest belts, and in the smaller woodland areas of Central Alberta.

THE UNIVERSITY, EDMONTON, ALBERTA *Photo, C.P. Rly.*

The total area under crops is approximately 13,000,000 acres. The average annual value of the field crops is £40,000,000, of which wheat accounts for £23,600,000, and oats £4,400,000. The live stock in the province include 1,365,000 cattle, 830,000 horses, 800,000 pigs, 400,000 sheep, and 5,000,000 poultry. The dairy industry is considerable, the production of butter alone averaging 20,000,000 pounds. There are Government demonstration farms, including three free schools of agriculture.

Excellent sport is afforded by the quantities of game, especially in the north of the province. Ducks, partridges, snipe, plover, geese and prairie chicken are plentiful. Moose, deer and caribou abound in the northern forests, and the fur-trader reaps a rich harvest from otter, mink, ermine, wolverine, marten, badger, squirrel, bear, fox, wolf, and lynx. Fishing for whitefish and pike is extremely remunerative in Alberta, though trout and pickerel are taken in considerable quantities. The annual value of the fisheries of the province is a little more than £175,000. The Dominion Government, in response to popular demand, has taken steps to prevent the total extinction of the buffalo, and has established parks, where there are in the neighbourhood of 1,200 of these former monarchs of the plains, living the life of their ancestors, secure from slaughter.

MINING AND TRANSPORT.

Alberta is rich in minerals. Nearly the whole of the province appears to be underlain with coal. Geological reports presented at the Conference of International Geologists, in 1913, estimate that Alberta has 14½ per cent. of the known coal reserves of the world, 1,075,039,000,000 metric tons being the approximate official estimate of these reserves.

The coal varies in quality. Anthracite, bituminous and lignite coal are mined in different sections. In the Edmonton series of coal-bearing rocks the coal so far mined is lignite, but only the higher strata of coal have as yet been touched, because of the large quantities lying close to the surface. In many instances, large seams of coal laid bare by the eroding action of the rivers, are found exposed on their banks. Vast tracts of country in the Lethbridge and Medicine Hat districts contain deposits of lignite coal, harder and heavier than that of the Edmonton series. Closer to the Rocky Mountains in the north, as well as in the Bankhead district, are valuable deposits of anthracite. Coal-mining operations are growing steadily. The output of the various mines averages about 7,000,000 tons a year.

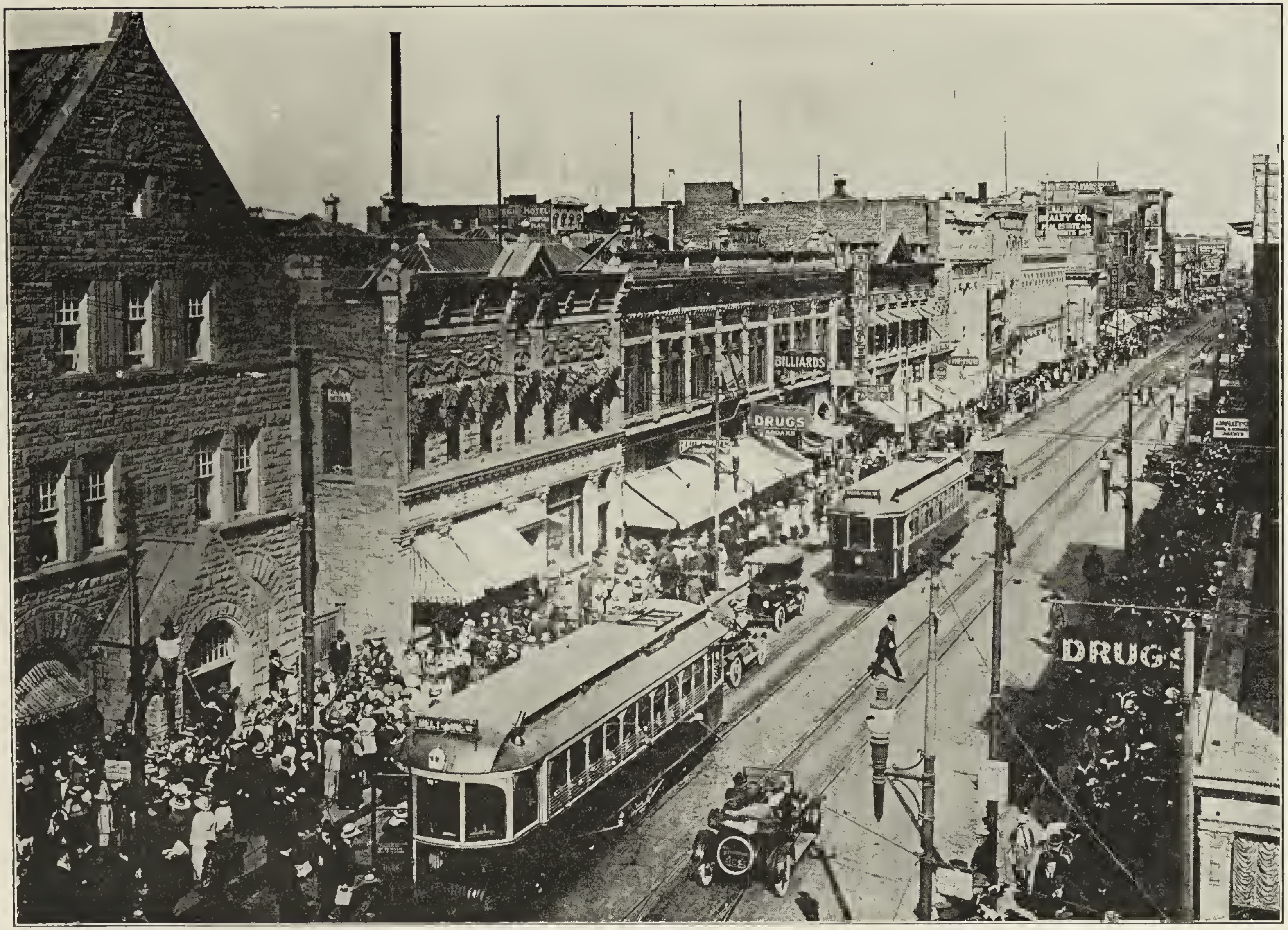
Coal is not the only mineral found in Alberta, although up to the present it is the main one. The rocks that underlie the whole province have as their basic member the Dakota sandstone, a porous rock and suitable reservoir for oil. The successful borings for oil in the Calgary district have recently demonstrated the truth of the geologists' predictions for Alberta. It is fully expected that when Northern Alberta is more fully opened up for settlement and developed, that oil will be found there also.

Along the Athabasca River there are rich deposits of tar sands. Analysis of these shows 12.42 per cent. of pure bitumen or mineral tar. With little refining, they may be used for paving, roofing, and other purposes. The Athabasca beds of tar sands are estimated to cover 1,000 square miles, with an average thickness of 150 feet. The district also provides two of the essentials for glass-making—fuel and silica. Salt, gypsum, limestone rock, clay for brick-making and pottery, are found at various points in the province.

Natural gas exists in large quantities in Alberta. The city of Medicine Hat supplies this gas to the citizens for light, heat and manufacturing purposes at the lowest rates in North America. Calgary, Lethbridge, Castor, Tofield and other cities and towns are also lighted with this product. One gas well alone produces 3,000,000 cubic feet every day.

The pioneer transcontinental railway—the Canadian Pacific, which reached Alberta in 1883—played an important part in the opening up of the province. It has been followed by two other transcontinental railways, and the branches of these main lines, together with some minor roads, have gradually formed a network of communication over the southern and central portions. Three lines are at present pushing their way further each year into the great fertile hinterland of Northern Alberta.

The Canadian Pacific Railroad was the first to pierce the lofty Rockies, running from Medicine Hat through the Crow's Nest and Kicking Horse Passes. Two other great passes are the Yellow Head and Peace River, which, first traversed by daring explorers, have since been made highways of traffic. The main line of the Canadian Pacific runs east and west through Calgary, and from there sends a branch north to Edmonton, and another south to Macleod. From the Edmonton branch there are two offshoots starting at Lacombe and Wetaskiwin. Other branches diverge from the main line at different points, and extend into the newer districts.


BILLIARDS
DRUGS
DRUGS

Photo, C.P. Rly.

CALGARY

One of the principal cities of Alberta. It has developed during quite recent years from a "cow-town" to a busy and up-to-date commercial centre, with a population of about 67,000

The Canadian Northern connects Edmonton with Winnipeg and Port Arthur, and continuations bring the capital city of Alberta into direct communication with Vancouver to the west, and Calgary to the south. The same system has also a line to Calgary from the east, as well as extensions westward into the coalfields, and from Edmonton north toward the Peace River.

The Grand Trunk traverses the central portion of the province from east to west, passing through Edmonton, and has branch lines built and projected in a south-westerly direction. The last twenty years has seen Alberta's 600 miles of railway multiplied over twelve times, and construction continues at the rate of about one mile a day.

The building of roads and bridges for vehicular traffic, commenced under the former Territorial Government, has been most energetically continued by the Provincial Administration. The rapid influx of settlers caused a demand for highways on every side. Consequently, each year the provincial authorities, working in co-operation with the local boards, have employed numerous regiments of road and bridge builders in each portion of the province requiring such public work. A wide-reaching system of rural telephones exist in the province, owned and maintained by the Government.

EDUCATION AND SPORT.

The province controls the educational system within its boundaries. As with other forms of development in Alberta, the growth in educational facilities is so rapid that for some years past a school district has been organised somewhere in the province nearly every day. Salaries to teachers are generous, and a high standard of ability is required of children up to the usual age, but in those rural districts which are still in a partially settled condition, it has not always been found practicable to rigidly enforce this clause of the School Act. Higher education is admirably provided in all the larger centres of population by means of high schools, colleges, and academies, working together with the University of Alberta. This vigorous young institution grew in the first six years of its existence so rapidly that 450 students were enrolled, and the teaching staff comprised nearly fifty men from the older Universities of Europe and North America.

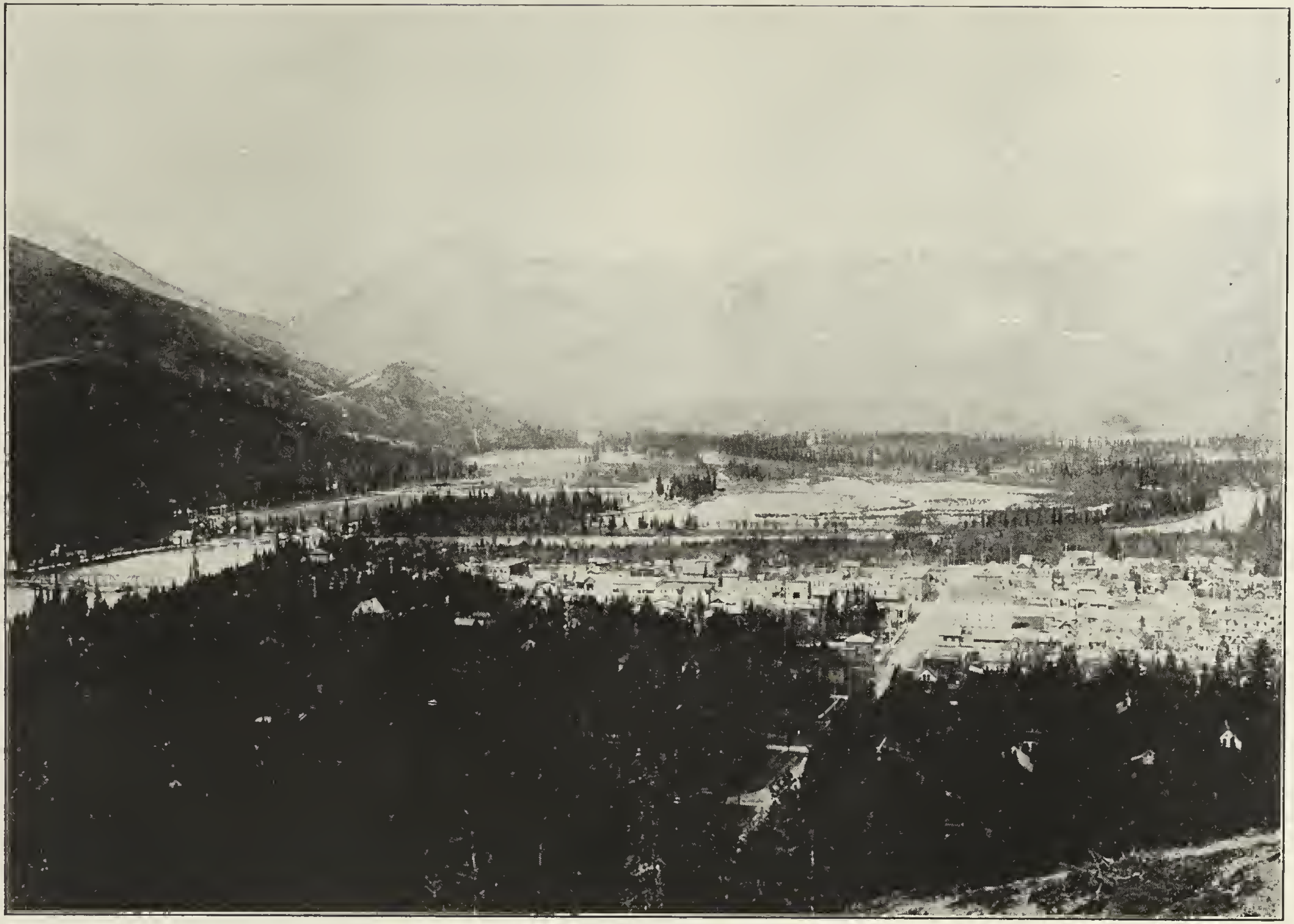
Alberta offers many attractions to the sportsman and lover of outdoor life. The Rocky Mountains are a paradise for mountain climbers, as well as for hunters of big game, while throughout the province, riding, canoeing, fishing, and duck shooting are general.

There are close seasons for game and various regulations for its protection, but, with the exception of the two great National Parks of the mountains, there are no game preserves. In these parks are to be found mountain sheep and goats, caribou, black and grizzly bear, fox, marten, ermine, mink, deer, as well as grouse, duck, snipe, and hare. Among outdoor sports largely entered into by Albertans in their appropriate seasons are baseball, lacrosse, football, hockey, curling, skating, and ski-ing.

EDMONTON.

The capital of the province of Alberta is pleasantly situated on the banks of the Saskatchewan River. It has grown from 3,167 inhabitants in 1901 and 58,830 in 1921 to just under 69,000 in 1930. It owns and operates all civic utilities—street railway, light, water, and power. It has an admirably conceived group of Parliament buildings, a Provincial University, with a staff of professors and hundreds of students, twenty-nine churches, twenty-four schools, five colleges, a hotel costing £400,000, and two packing plants. This city is on the way to becoming a great Canadian centre. It is not only the metropolis of an immense district of fertile farms and valuable coalfields, but it is strategically situated as the gateway of the rich northern hinterland now on the eve of rapid development. Three great transcontinental railway systems centre here, and the city lies over coal-beds containing millions of tons of fuel.

The manufacturing industry of Alberta is, as yet, in its infancy. Nevertheless, it has increased during the past twenty years from £262,675 to £17,840,000. The principal centres are Calgary (£6,000,000) and Edmonton (£4,100,000). There is considerable scope for the establishment of industrial enterprises in this province, because of the close proximity of coal-fields, and the railway communications with both east and west.



BANFF, ROCKY MOUNTAINS

Photo, C.P. Rly.

The scenery surrounding this famous Canadian mountain resort surpasses that of the Alps

If long apprenticeship or great skill were not required, labour would be fairly plentiful, especially during the winter months.

CALGARY.

Although of recent development, Alberta has six cities and about fifty smaller towns. The largest city in the whole province is CALGARY, which has a population of nearly 70,000, and is a railway, commercial, agricultural, and live-stock centre. It has a University, several colleges, a Normal School, about forty public schools, and is the centre of an irrigation system upon which the Canadian Pacific Railway Company has expended over £3,000,000. Factories and wholesale houses are numerous. The city owns the public utilities of street railway, water, light, and power. There are extensive agricultural districts subsidiary to Calgary. The oil-fields south of the city, which are now being energetically developed, will also enhance its future development.

OTHER TOWNS.

BANFF is a beautiful resort in the Rocky Mountains, 80 miles west of Calgary. It is thronged with tourists, especially during the summer months. Of its many hotels, one has accommodation for 100 guests. Here, and at Jasper Park in the Rockies, west of Edmonton, the scenery surpasses that of the Alps. These great natural parks in the mountains are rapidly becoming haunts of the world's pleasure seekers, as well as the playgrounds of Albertans. MACLEOD, at one time the centre of a noted ranching district, has become, through recent developments, the main point in a wheat country noted for its " No. 1 hard." It is a railway junction of importance, and is developing into a big distributing centre, not only for the farming regions hereabouts, but for the numerous mining towns springing up in the pass to the West. LETHBRIDGE owes its origin to the development of the immense coalfields in its neighbourhood. Coal-mining and ranching were the two earliest industries in the district. To-day the order is changed to coal-mining, wheat-raising, and lastly, ranching. Smaller industries are springing up here. This is an attractive city, which has obtained a large portion of its population from Great Britain. MEDICINE HAT has developed in a few years from an old-time " cow-town " to an ambitious industrial centre. Natural gas supplies light, power, and fuel to the entire city. Because of this, power is supplied to industries at very cheap rates. RED DEER is ideally situated in a park country, both fertile and beautiful. It is the seat of an excellent ladies' college and other boarding schools, and is likely to attract other residential institutions. Mixed farming and dairying chiefly occupy farmers in this vicinity.

The north country, because of its longer sunshine and the influence of chinooks, is as mild in climate as Central Alberta, and already at Grouard and Grand Prairie are settlements of thousands of people who went into the country ahead of the railway, being eager to secure first choice of land.

Province of British Columbia

British Columbia, the Pacific Maritime Province of the Dominion of Canada, has an estimated area of 355,855 square miles. It is bounded on the east by the Rocky Mountains, and on the west by the Pacific Ocean. The population at the census of 1921 numbered 524,582, and in 1929 was officially estimated at 591,000.

HISTORY.

In 1537 Cortes discovered California, and for nearly half a century the Spaniards were the only navigators of the North Pacific. Sir Francis Drake was the first Englishman to visit the Pacific Coast, in 1578, when he raided the Spanish settlements and hoisted the British flag at Drake's Bay, near San Francisco. He took possession of the country in the name of Queen Elizabeth, calling it New Albion. In 1592 Juan de Fuca discovered the strait which bears his name, and Juan Perez, Quadra, Behring and others, visited the coast at intervals until 1778, when Captain James Cook cast anchor in Nootka Sound, while on a mission to discover a north-east passage to the Atlantic.

After sailing north to the Arctic Ocean, and naming many sounds, inlets and islands, Cook left for the Sandwich group, where he was killed in a fight with natives. His vessels, the *Resolution* and the *Discovery*, returned to England, however, and the reports of their crews respecting the great opportunities for fur trading aroused so much attention, that several expeditions were fitted out in England, and in China and India, for the North Pacific trade. For several years merchant adventurers, British, Spanish and Dutch, visited the coast as rival fur traders, but it was only in 1788 that Captain Meares established a permanent settlement on Nootka Sound, where he built a ship called the *North-West America.*

The following year a Spanish force under Don Estavan Martinez seized the settlement in the name of his sovereign, confiscated the British ships and imprisoned the crews. These lawless acts nearly caused war between Britain and Spain, but the affair was finally settled by abitration, Spain abandoning the territory and paying an indemnity of 210,000 dollars. Subsequently, in 1792 and following years, Captain George Vancouver made a survey of the coast, and established the existence of Vancouver Island, which had been a matter of dispute since the days of Juan de Fuca. The Mainland was for many years "No Man's Land," and it is due to the North-West Fur Company and the Hudson Bay Company that this vast territory was brought to the notice of the world.

Alexander Mackenzie, who was the first man to cross the continent north of the Mississippi, reached the shore of the Pacific at the mouth of the Bella Coola River in July, 1793. In 1800, David Thompson, travelling overland from Red River, near the present site of Winnipeg, reached the Bow River, near the present site of Calgary, and subsequently crossed the mountains and discovered the river which bears his name. Sir Alexander Mackenzie, Simon Fraser and David Hearne, also made extensive explorations and added materially to the knowledge of the great North-West and the Pacific Coast.

In 1849 the Island of Vancouver was granted to the Hudson Bay Company for a period of ten years. A Government was established, and Richard Blanchard was sent from England as the first Governor. He resigned in 1850, and was succeeded by

IN THE HEART OF THE ROCKIES (British Columbia) *Photo, C.P. Rly.*

MOOSE RIVER PASS, BRITISH COLUMBIA *Photo, Canadian Nat. Rlys.*

James (afterwards Sir James) Douglas. An Assembly was called and held its first meeting at Victoria in August, 1856. While Vancouver Island was thus constituted a Crown Colony, the mainland, known as New Caledonia, remained practically unknown, and inhabited only by Indians and a few fur traders. Gold was discovered on the Fraser River in 1858, and miners began to crowd into the country, making the establishment of some form of government a necessity. Therefore, the whole of the mainland, west of the Rocky Mountains, was created a Crown Colony under the name of British Columbia.

In 1866 the two colonies were united by Act of the Imperial Parliament, and on the 20th July, 1871, British Columbia became a province of the Dominion of Canada. British Columbia entered the Confederation upon the condition that within two years the construction of a railway should be commenced which would connect it with the Eastern Provinces. This road is now the Canadian Pacific Railway. It was completed in 1885, and gave Canada and the Empire a great highway from the Atlantic to the Pacific.

SCENERY AND CLIMATE.

This province may be divided, roughly, into three areas, each having its special characteristics, viz. : (1) The islands adjacent to the coast ; (2) the great interior plateau, flanked by mountains on the east and west, and forming the southern half of the mainland ; and (3) the northern half, separated from the plateau by various cross mountain chains, from whence spring the head-waters of the Peace River.

The first area comprises Vancouver Island, the Queen Charlotte Group, and the innumerable islands of various sizes that dot the coast-line. Washed by the waters of the Japanese current, the climate is mild and moist, and the same may be said of the narrow strip of territory intervening between the Coast Range and the sea-shore. This influence also affects to some extent the estuaries of the rivers flowing into the Pacific.

The great interior plateau, elevated some 3,500 feet above sea-level, has been so deeply eroded by lake and river streams, that in some parts it appears mountainous, but the absence of sharp edges to the hill-tops, and the innumerable rounded boulders, point conclusively to the fact that at some remote period this immense area was the bed of a vast inland sea.

Of the third area, except in isolated patches, comparatively little is known. The Coast Range of mountains forms a rocky frontier on the west, while the eastern boundary, following the 120th meridian of longitude, cuts the Rocky Mountains at the Peace River Pass, and continues north through a rolling prairie region that has never been thoroughly explored. Many large arable areas are found, to which much attention has been turned of recent years, and the extreme northern portions, apart from agricultural possibilities, will be valuable for the precious metals, coal, and other minerals which are found in large deposits throughout its length and breadth.

The area of British Columbia has been variously set down from 355,855 to 395,000 square miles. From careful surface measurements of the map, the following results have been obtained, according to the present main political divisions :—

	Sq. Miles.	Acres.
Kootenay - -	23,500	15,060,000
Yale - - -	24,300	15,850,000
Lillooet - -	16,100	10,300,000
Westminster - -	7,660	4,900,000
Cariboo - -	150,500	96,350,000
Cassiar - - -	150,000	96,000,000
Comox (mainland) -	7,100	4,550,000
Vaneouver Island -	16,400	10,000,000
	395,560	253,010,000

The foregoing measurements are given approximately, to approach round figures as nearly as possible.

MORAINE LAKE, BRITISH COLUMBIA *Photo: C.P. Rly.*

THE GREAT GLACIER, BRITISH COLUMBIA *Photo, C.P.Rly.*

Eight rivers form the natural avenues of transportation for British Columbia—the Fraser, Columbia, Thompson, Kootenay, Skeena, Stikeen, Liard and Peace.

The Fraser is a great water-course. Rising in the Rocky Mountains, about midway along the eastern boundary, it runs almost due west in two branches for some 200 miles. These streams then join, and flow south through the Cariboo, Lillooet and Yale districts, until, near Chilliwack, the combined stream abruptly turns to the west and finds an outlet to the Pacific through the Gulf of Georgia. Several tributaries of importance add to its volume, among them being the Thompson, draining the Kamloops and Shuswap Lake areas, the Chilcotin, Lillooet, Nicola, Harrison, and Pitt. From its last westerly turn it flows through a wide alluvial plain, mainly deposited from its own silt. It is navigable for vessels drawing 20 feet to New Westminster, about 15 miles from its mouth, and light draught boats can travel to the small town of Yale, 95 miles further inland. Another stretch of 100 miles in the interior is also navigable for small craft, from Soda Creek to Fort George Canyon. The waters of the Fraser teem with salmon, and the canneries near its mouth give employment to many thousand men during the fishing season.

The Columbia rises almost in the south-east corner of the province and runs north about 150 miles to where the Canoe River runs into it, when, turning in an abrupt semi-ellipse, it takes a southerly course, and, draining the water-shed of the Arrow Lakes, leaves the province in the vicinity of Rossland. Though interrupted by a number of rapids, it is navigable to a very large extent, and steamers ply regularly between Windermere and Golden, and both north and south from Revelstoke.

The Peace River lies only partly within the province, but will in the future be of great importance. Mr. F. W. Valleau followed this river from its source to the eastern boundary of the province, and found many indications, in the surrounding country, of agricultural possibilities.

The Thompson, so-called, is practically two distinct streams flowing at right angles to each other into the eastern end of Kamloops Lake. The south Thompson connects that body of water with the Shuswap Lake to the east, while the North Thompson, having its source in the Clearwater Lakes, Cariboo, flows due south, through a wide valley, suitable, with irrigation, for agricultural purposes. For a considerable distance both rivers are navigable. The north branch of the North Thompson, which rises in the vicinity of Tete Jaune Cache, and empties into the main river at Victoria Point, is also an important stream, draining a large area of agricultural and grazing land.

The Skeena is second in importance among the rivers wholly within the province, and is navigable nearly 200 miles from its mouth. Hazleton, 150 miles inland, is at present the most easterly point having steamboat connection, which lasts about seven months each year, or during the season of high water. The total length of the Skeena is 300 miles, and its general direction south-west.

Although for the last few miles of its course the Stikeen River runs through Alaska, it forms the main artery of communication for that portion of the province known as Cassiar district. It has been regularly navigated for many years for a distance of 130 miles, the eastern steamboat termini being Glenora and Telegraph Creek.

Many natural depressions are filled by lakes in British Columbia, the principal of which are tabulated below, the areas being transcribed from the reports of the last census of Canada :—

Lakes.	Area in Acres.
Adams	33,280
Atlin (part)	211,680
Babine	196,000
Chilo	109,760
Harrison	78,400
Kootenay	141,120
Lower Arrow	40,960
Okanagan	86,240
Owikano	62,720
Quesnel	94,080
Shuswap	74,150
Stuart	141,120
Tatla	86,240
Tagish (part)	58,180
Teslin (part)	78,400
Upper Arrow	64,500

It is only to be expected that in a province the size of British Columbia, there will be a wide variation in climatic conditions. The Japanese Gulf Stream makes its way across the broad Pacific, striking the coast of Alaska. From thence, it is diverted, and makes its way south, washing the shores of the west coast of the mainland, Vancouver Island, and other gulf islands. This current exercises a moderating influence along all the Pacific slope, also penetrating up the countless inlets and fiords with which the coast abounds, and thus giving the Pacific Littoral a mild, equable climate the year round, and a rainfall varying from 28 in. to 100 in.

There are four ranges of mountains which traverse the province in a north-easterly direction—the Coast Range, the Gold Range, the Selkirk Range and the Rocky Mountain Range. Between these ranges of mountains are many fertile valleys, bench lands and plateaux, where soil and climatic conditions are favourable for agricultural development.

AGRICULTURE.

Whilst the larger part of this province is mountainous, therefore unfit for profitable cultivation, there is a considerable amount of plateau, bench and valley land, which is very well adapted to general farming purposes. The acreage of this land has been variously estimated. There are approximately 50,000,000 acres which may be placed in the category of agricultural lands.

The province is covered for the most part with a growth of timber varying in density, being heaviest on Vancouver Island and the Lower Mainland, and lightest in the Dry Belt Valleys of the interior and in the northern part of the province.

For the sake of convenience, British Columbia may be divided agriculturally into six different districts, as follows :—

1. Vancouver Island and Gulf Islands.—This district has a mild, equable climate the year round : average rainfall, 40 in. ; average summer temperature, 70 deg. ; winter, 40 deg. The district is pre-eminently adapted for mixed farming purposes. Dairying, poultry raising, hog raising, the growing of tree fruits and small fruits, and vegetables, are successfully undertaken.

2. Lower Mainland, comprising the delta lands of the Fraser River. Average rainfall, 70 in. ; average summer temperature, 70 deg. ; winter, 40 deg. Essentially adapted for stock raising,

grain growing, dairying, poultry raising, hop raising, small fruits and vegetables. The soil is a very deep, rich, alluvial silt, which has been washed down for countless ages from the mountains, Phenomenal crops of grain, hay and roots are grown thereon. Clovers and other grasses grow luxuriantly, making this district especially well suited to stock raising and dairying.

3. CENTRAL BRITISH COLUMBIA, comprising the districts of Lillooet, Chilcoten, and Cariboo. Average rainfall, 15 in. ; average summer temperature, 75 deg. ; winter, 5 deg. The winters are short, cold and bracing. There is a considerable fall of snow, necessitating the feeding of stock during the winter months. The country is well adapted for stock raising and grain growing. General mixed farming may also be profitably undertaken.

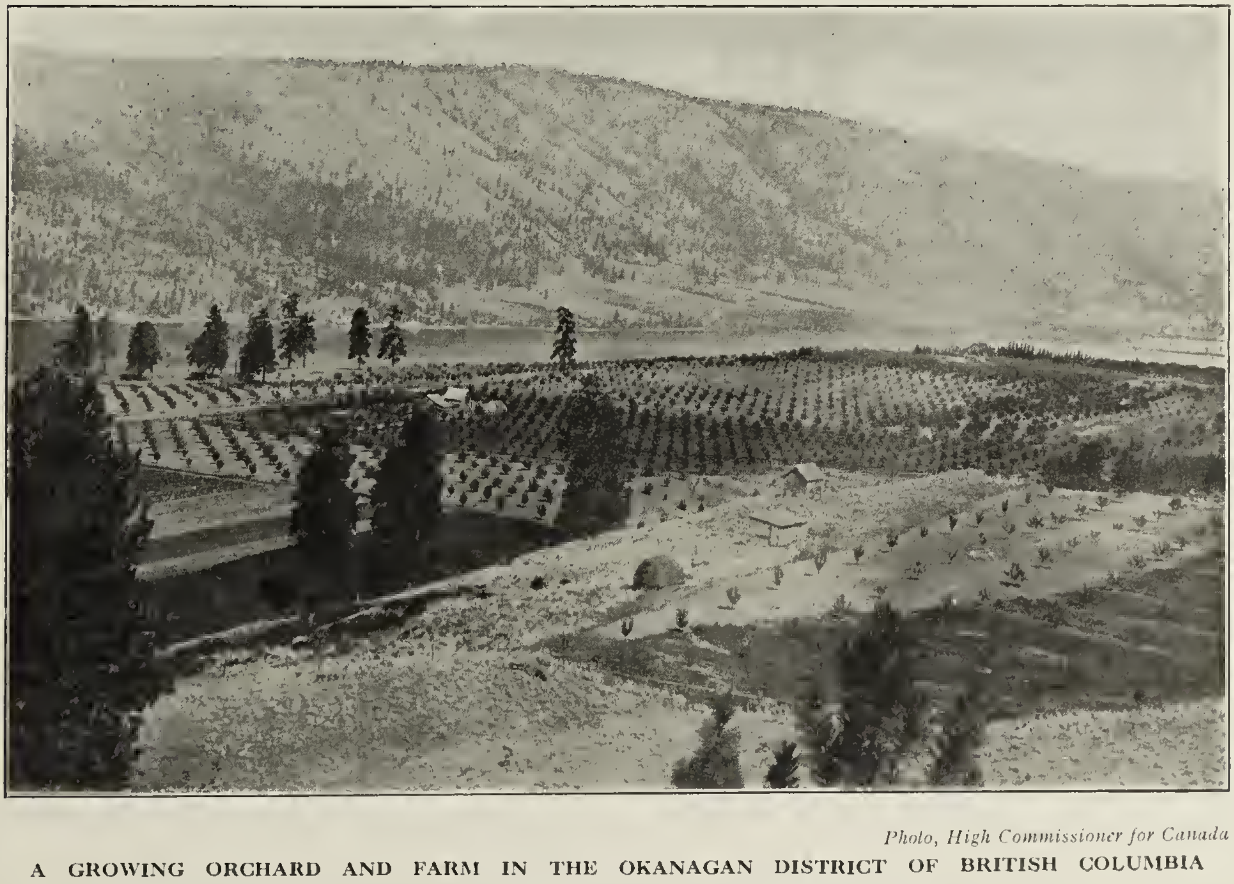
4. NORTHERN BRITISH COLUMBIA, comprising the territory between Fort George and the Naas River. The district has now been made available to the settler by the completion of the Grand Trunk Pacific Railway. It contains an immense tract of country suitable for general farming purposes. Average rainfall, 40 in. ; average summer temperature, 75 deg. ; winter, 5 deg. There is a considerable snowfall ; the winters are cold, dry, and bracing. Stock has to be fed during the winter months. This district is best adapted for grain growing, stock raising, and general mixed farming. Small fruits and vegetables also do well in many parts. Wild peavine grows luxuriantly all through this section.

5. PEACE RIVER.—This territory lies to the north-east of the province, and embraces a very large area. There has as yet been very little agricultural settlement in this district, owing to lack of transportation facilities. This, however, will soon be obviated. The Pacific Great Eastern has built a line which runs from Vancouver to Fort George, and from thence into the heart of the Peace River country. There are millions of acres of rolling plateau lands in the Peace River country, which should be well suited for stock-raising and grain growing. There is a fairly heavy snowfall ; the winters are about five months in duration. Wheat of the finest quality has been grown as far north as Fort Nelson.

6. INTERIOR VALLEYS OF SOUTHERN BRITISH COLUMBIA.—The principal valleys contained in this district are as follows : Nicola, Thompson River, Okanagan, Similkameen, Boundary, Kettle Valley, Creston, West Kootenay, East Kootenay, Columbia, Arrow Lakes and Slocan. In most of these valleys irrigation is practised. Rainfall, 10 in. to 30 in. ; average summer temperature, 75 deg. ; winter, 5 deg. Moderate snowfall ; winters cold, dry, and bracing. The finest quality of fruit, which has secured the highest awards at leading exhibitions all over the world, is grown in many of these fertile

GRAND FORKS, BRITISH COLUMBIA *Photo, C.P. Rly.*

SHOOTING THE RAPIDS ON A BRITISH COLUMBIAN RIVER *Photo, C.P. Rly.*



Photo, High Commissioner for Canada
A GROWING ORCHARD AND FARM IN THE OKANAGAN DISTRICT OF BRITISH COLUMBIA

Photo, High Commissioner for Canada

IN THE FRASER RIVER CANYON, BRITISH COLUMBIA

valleys. Apples, pears, plums, cherries, apricots, peaches, and grapes are grown successfully. Small fruits and vegetables do very well. Mixed farming may be profitably followed in all these valleys.

The farmer in British Columbia is particularly fortunate in the markets which he possesses for all products of the farm. The rapidly-growing coast cities have to be supplied. In addition, there are mining and logging camps, railways and steamships, canneries and sawmills, which take a very large amount of agricultural and pastoral produce. The farmer also has rapidly extending markets in the north-west provinces of Alberta, Saskatchewan and Manitoba, for all fruits and vegetables. Produce is also shipped to Australia, New Zealand, China and Japan, and these markets can be extended when the produce is available. The completion of the Panama Canal has opened up the markets of Europe for many of the products of this province.

There are three transcontinental lines operating through the province. Branch lines are being built from these main arteries, opening up many good agricultural districts. The Provincial Government is spending a very large amount annually on the construction of public roads, thus enabling the farmer to get his produce expeditiously to the market.

Stock raising is not practised as extensively as it should be in a province which is so admirably adapted for it. Farmers, however, are now beginning to realise the necessity for keeping more stock on their farms, and a rapid advance may be looked forward to with confidence in the near future. The completion of the Grand Trunk Pacific, the Canadian Northern, and the Pacific Great Eastern, have opened up many districts which are particularly well suited for stock raising.

Sheep are kept by many farmers in the province in small flocks. They are not ranged to any extent, however, owing to their natural enemies, such as coyotes, panthers and wolves, which necessitate flocks being herded and coralled at night.

British Columbia has made a name for herself in the growing of tree and small fruits. The colour, texture and quality of the fruit grown in suitable districts cannot be excelled anywhere in the world, and there is a ready market for the products of the orchards. As evidencing the quality of British Columbia fruit, it may be stated that the Royal Horticultural Society's Gold Medal has been won eight times by British Columbia. Some districts of this province specialise in growing vegetables for the north-west market and very good returns are made by men who thoroughly understand this intensive cultivation.

It may safely be stated that the progress of agriculture in British Columbia has been marked by steady advance along all lines. Farming in the province is pursued under many advantages. The cost of land in some sections, and the high price of clearing land, may be mentioned as the two main obstacles. On the other hand, there are many thousands of acres in the province for pre-emption to British subjects or naturalised citizens. These are in tracts ranging from 160 to 80 and 40 acres. After a three years' residence on the land, improvements to the value of 5 dollars per acre, at least 5 acres cleared, and a payment made of 14 dollars, the pre-emptor receives a Crown grant of the

BIG TREES IN THE COLUMBIAN FOREST *Photo, C.P. Rly.*

land from the Provincial Government. Mixed farming is to be advocated and is the general rule in most of the rural communities throughout the province.

The average annual value of the field crops is approximately £4,150,000, and of the fruit produced by the 4,126 growers £7,000,000 a year. The livestock includes 62,000 horses, 339,000 cattle, 100,000 sheep, 46,100 pigs and 2,900,000 poultry. The production of butter averages just over 6,000,000 lbs., valued at about £500,000.

LOGGING *Photo, C.P. Rly.*

LAND PURCHASE.

Payments for purchased lands are made as follows : When the land staked by the purchaser or his agent is unsurveyed a deposit equal to 50 cents per acre must accompany the application to purchase ; the balance of the purchase money is payable six months after the application is approved. The purchaser has to advertise at his own expense his notice of application to purchase, in the *British Columbia Gazette* and a newspaper published or circulated in the district in which the land is situated ; he must also have the land surveyed at his own expense. The time required for these preliminaries will not be less than ninety days, and under some circumstances may be more—possibly six to twelve months. When surveyed land is purchased, 25 per cent. of the purchase price is paid with the filing of the application to purchase, and the balance in three annual instalments, with interest at 6 per cent.

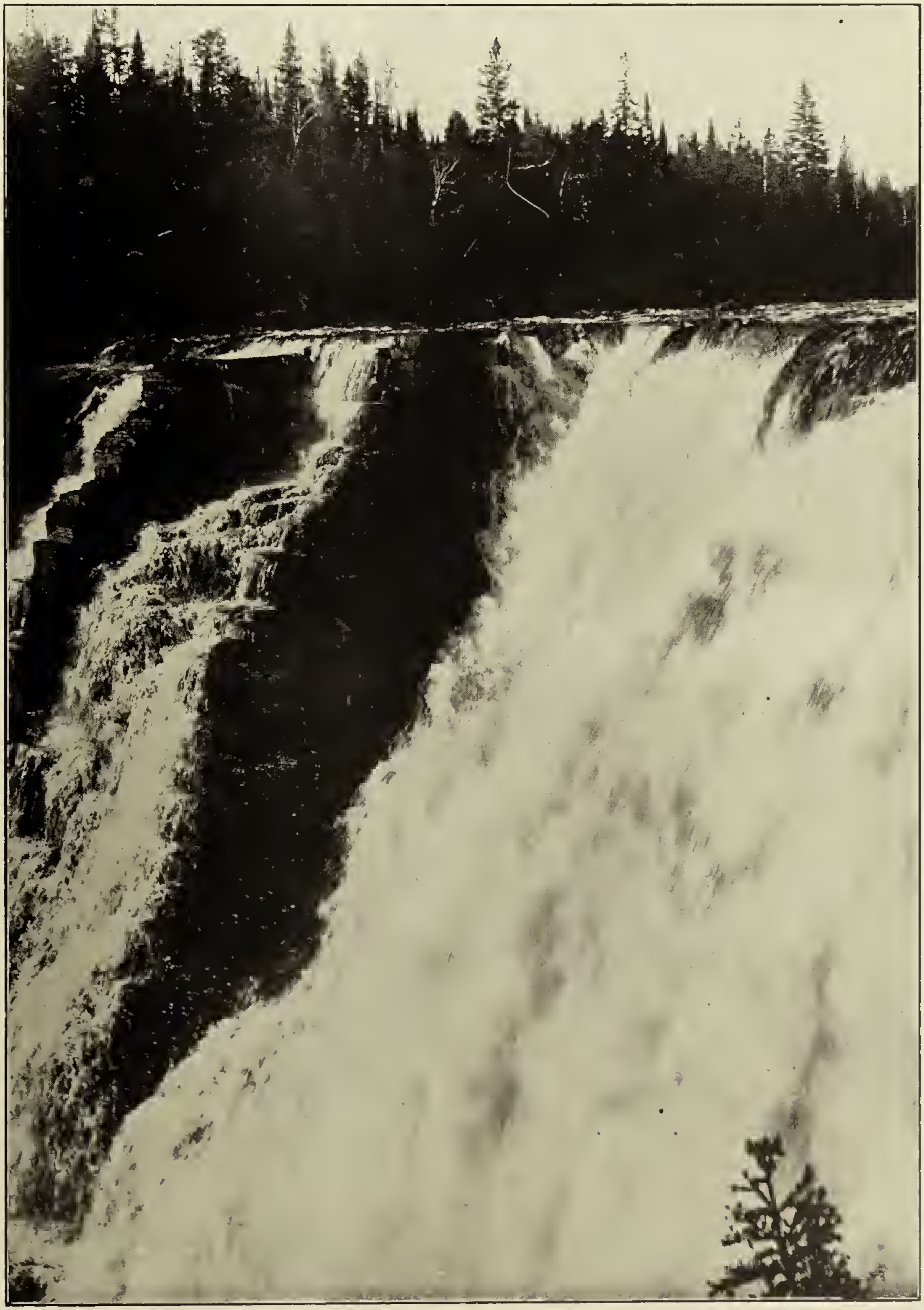
The great bulk of the land open to pre-emption is in undeveloped districts, about which little is definitely known, and where travelling is difficult owing to the absence of means of communication—although roads, trails and bridges are being made as fast as possible. From all reports there are large areas of fertile land in these districts well suited to mixed farming, dairying and cattle raising, but most of this land is far from markets, hard to get at, and so isolated that, until the coming of the railway, those who make homes there must be prepared to " rough it " and bear with all the

Photo, C.P. Rly.

MONTREAL FROM MOUNT ROYAL

Photo, High Commissioner for Canada

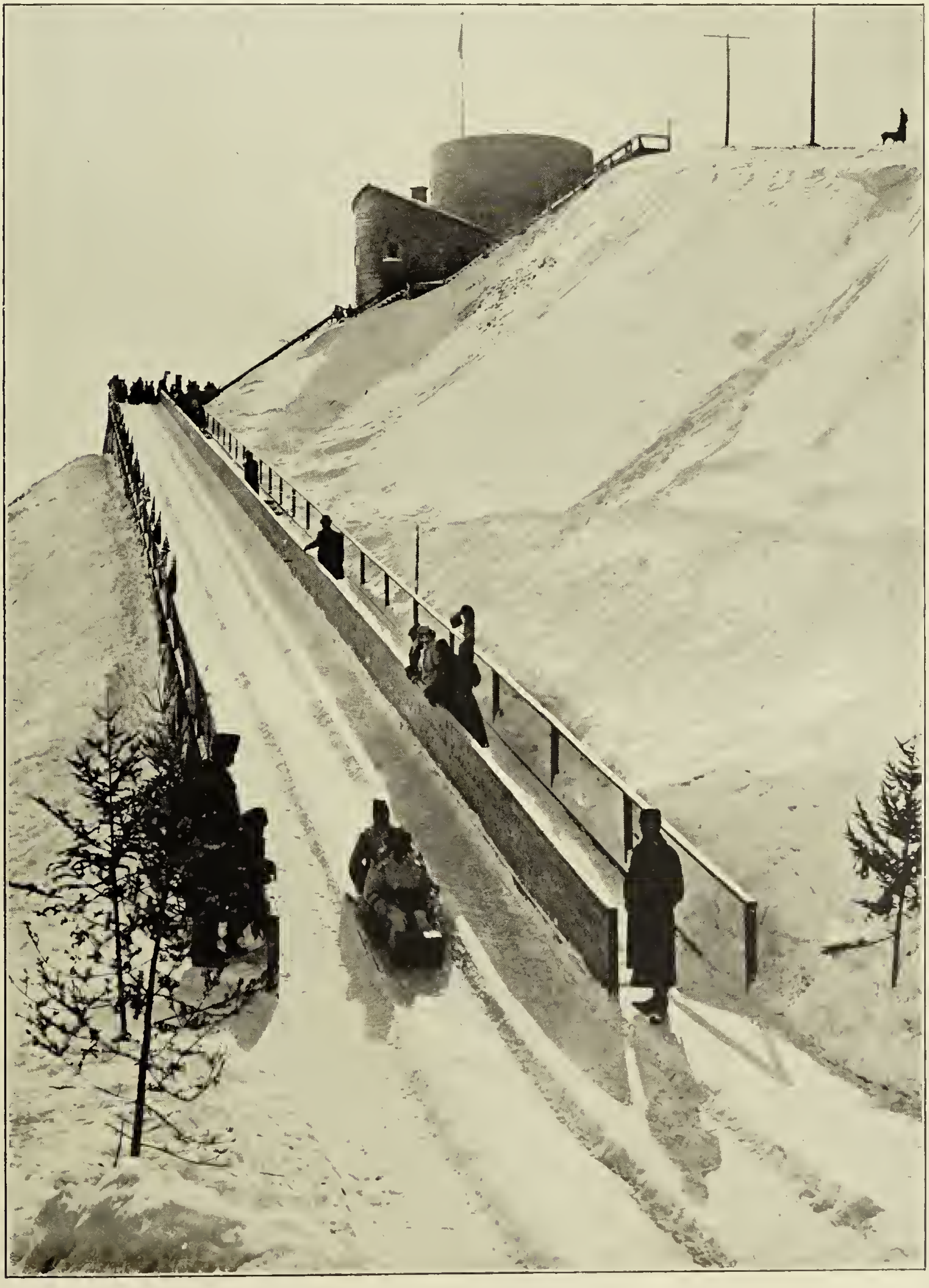
THE HORSE-SHOE FALLS, NIAGARA



KAKEBEKA FALLS, NEAR FORT WILLIAM, ONTARIO *Photo, C.P. Rly.*

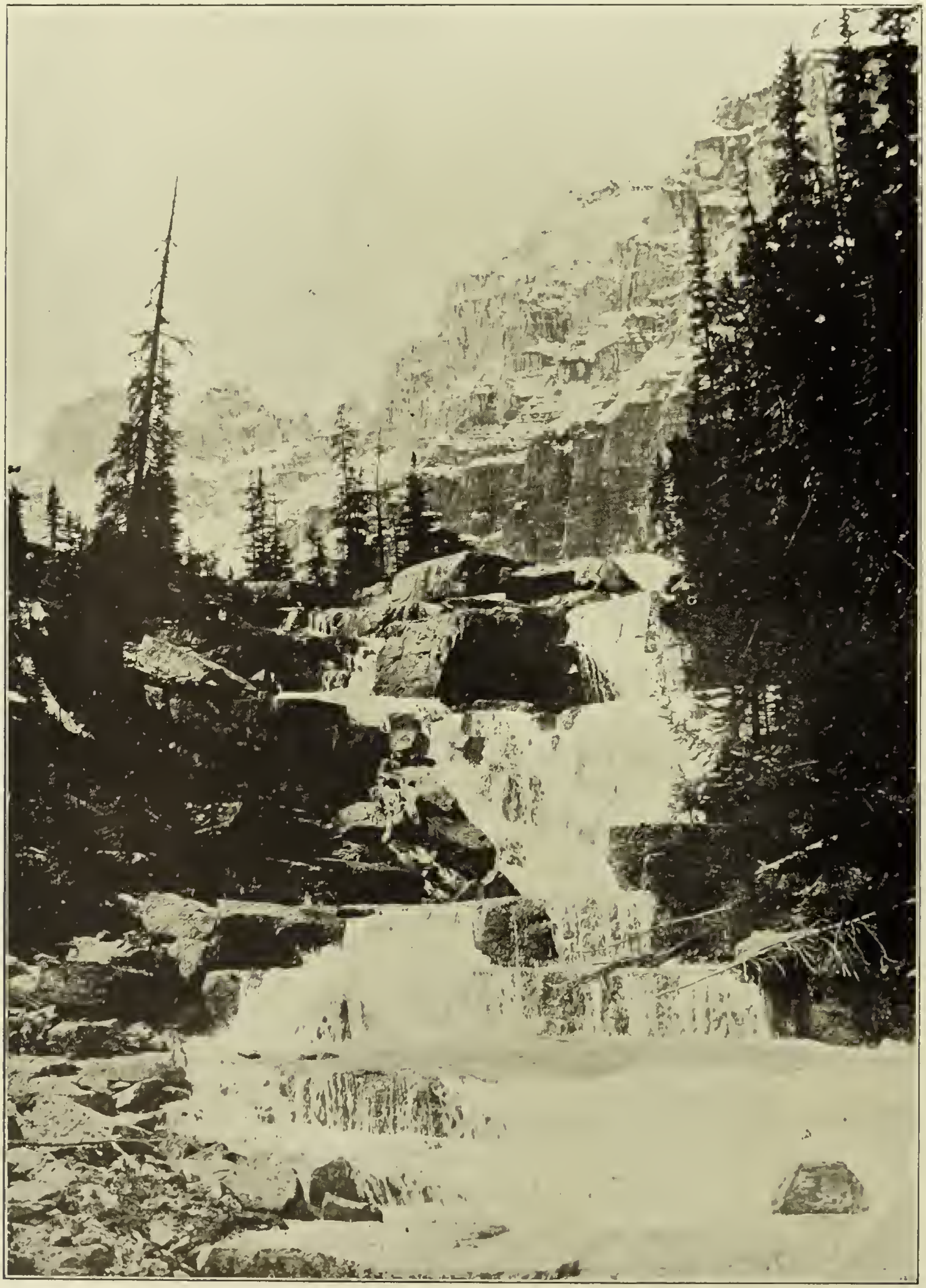
OBSERVATION CAR IN "THE GAP," NEAR BANFF, IN THE ROCKY MOUNTAINS

Photo, C.P. Rly.



"OUR LADY OF THE SNOWS"

Photo, C.P. Rly.

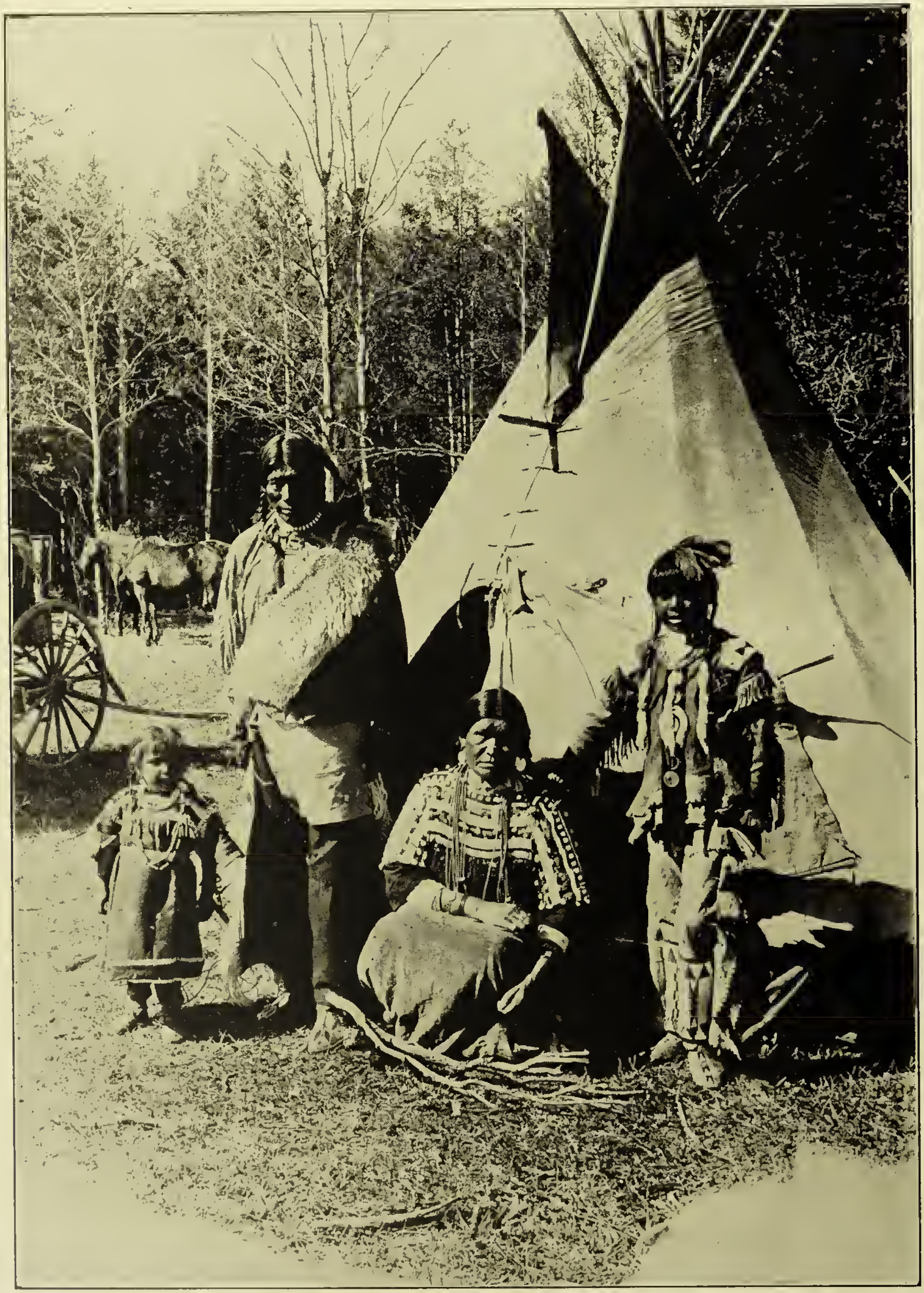


THE GIANT STEPS
A scene in Paradise Valley, Rocky Mountains

Photo, C.P. Rly.

A PEAK IN THE ROCKIES. MOUNT ASSINIBOINE

Photo. C.P. Rly.



A LODGE OF THE STONEY INDIANS IN THE ROCKY MOUNTAINS inconveniences and privations incidental to pioneer life. On the other hand, men accustomed to frontier life, and possessed of sufficient means to establish themselves in advance of the railway, need have no hesitation about going into a country where every man able and willing to work is certain of a present livelihood and a competency in the future.

MINING.

This was one of the very earliest industries in British Columbia. After the Indian came the trapper; after the trapper, the "prospector"; this is the history of the West and of the North-west. Even now, considerable as has been the advance of mining in British Columbia, there remains a large area of unexplored mineral-bearing territory for future prospecting and development.

SAWING LOGS IN THE FOREST *Photo, C.P. Rly.*

The Province of British Columbia is traversed in a north-westerly direction by four, more or less contiguous, chains of mountains, between which lie valleys of varying width. Each of these mountain ranges has been proved to contain mineral in sufficient quantity to be profitably mined; while the valleys of the interior, lying immediately to the west of the Rocky Mountain Range, contain placer gold throughout the whole length of the province. The total area of British Columbia is about 395,560 square miles; the entire province has been demonstrated to be worthy of systematic examination, or "prospecting," as it is usually termed. It is estimated that, approximately, 250,000 square miles of country, known to be extensively mineralised, still remains as a virgin field for prospectors—a field such as exists to-day in but few other places in the world.

Lack of transportation has been the chief barrier against the development of British Columbia's mineral resources, entailing such great expense in carrying both the machinery to the mines, and the ores from the mines to the smelters or sea coast, as to be prohibitive in many cases. For a considerable period of time, placer-gold mining was the leading feature of the industry, by reason of the great value of the metal, which enabled a man with only a horse to bring out the gold over the rough trails from districts otherwise inaccessible. Consequently, for many years, mining—other than placer-gold—was confined to the sea coast where water transportation was to be had. Lode-mining of importance did not begin until about 1895, when the advent of railway transportation had rendered it possible.

To-day, the activity in railway construction in many portions of the province, stimulated and aided by the Provincial Government, promises to be of the greatest possible assistance to mining; not only by affording additional transportation facilities to established mines, but by opening up new tracts of mineral-bearing country, and affording channels for the output of mines yet to be developed.

The Hudson Bay Company was the first important pioneer in the mining industry in British Columbia, discovering coal at Fort Rupert as early as 1835, and opening up extensive coalfields in Nanaimo in 1851. In 1858 alluvial, or placer-gold, was discovered in the bars of the lower Fraser River; and in ten years the province produced in the neighbourhood of 33,000,000 dollars worth of this metal. Gold, coal, copper, silver, lead, zinc, and iron are the principal minerals found. The first five have been produced to a very considerable extent; iron, while existing in large bodies, has not yet been mined generally, nor extensively. Zinc-mining is in its primary stage.

Other important minerals, such as alluvial platinum and quicksilver, have been shown in perceptible quantities, but are not yet an important factor from a productive standpoint. Brick-clay and fire-clay are found in many portions of the province. Oil and natural gas have been indicated; but so far, not largely exploited. Gold, coal, copper, and silver, in the order mentioned, head the list in the figures for production. Gold is widely distributed; and by placer-hydraulic and lode mining, the industry is carried on in many districts of British Columbia.

A NOVEL GEYSER *Photo, Harold J. Shepstone*

This is not a picture of a hot spring, nor is it an explosion of dynamite in the water, but an imitation geyser caused by a huge log striking the water after descending several hundred feet down a log chute at a speed of from 80 to 90 miles an hour. The logs are cut high up on the mountain sides in British Columbia, rolled into a trough made of other logs which extends down the steep mountain side near to or at the water's edge. The force with which one of these descending logs strikes the water is tremendous and causes a geyser many times the size of the log. The geyser shown was caused by a log about four feet in diameter

The promise of the future mineral development of the province is based upon what has already been accomplished in the short period during which mining has been in progress. In 1894, the value of the mineral output of the province was 4,225,717 dollars, while for the five years ending in 1929 it averaged well over 64,000,000 dollars.

LUMBERING.

British Columbia is above all a forest province. There was standing, ready for the logger in 1929, about 30,000,000 acres of accessible, merchantable timber. A further 90,000,000 acres of forest land, fire swept in the past, is now growing up in young timber of valuable species, which will become available in from twenty to sixty years. The stand of merchantable timber is estimated to be 360,000,000,000 ft. board measure.

There are three main forest regions in this province, each of which merits brief description. The most important is that of the coast, which covers Vancouver Island and the Pacific Slope west of the Cascade Mountains, and extends from the International boundary north to the Alaskan frontier. This is the forest that has made famous the timber of Western America. Its principal species, in order of importance, are Douglas fir, red cedar, hemlock, spruce, balsam, white pine and yellow cedar. These species grow in forests extending from sea-level to an altitude of 2,500 ft., their maximum development being the valley bottoms of the larger rivers of Vancouver Island and the mainland, below the 51st parallel. Here acres have been cut which yielded 350,000 ft. of timber, board measure. The average yield per acre of merchantable timber of this type is, however, 25,000 ft. per acre.

North of the 51st parallel the coast forest consists chiefly of cedar, hemlock and spruce. South of the parallel Douglas fir is the dominant timber, comprising the greater part of the stand and being the most valuable for logging purposes.

The forest region second in importance is in that portion of the province lying to the south-east of a line drawn from the Yellow Head Pass to Vancouver. This broad zone is cut by many deep valleys all of which are separated by high mountain ranges ; and from a timber point of view it is distinguished by the presence of white pine, Douglas fir, tamarack, red cedar, hemlock, Engelmann spruce, and lodgepole pine. Within this region are two well-defined belts, the dry and the wet. The dry belt timber lies in the valleys of the Frazer, Thompson, Okanagan and Kootenay Rivers. Here, up to an elevation of 5,000 ft., the forest is composed of yellow pine, tamarack, Douglas fir and lodgepole pine. The average stand per acre is 4,000 to 8,000 ft. board measure. The wet type covers the valleys of the Columbia and its tributaries. The chief species are red cedar, hemlock, Engelmann spruce and white pine, forming a stand averaging 8,000 to 20,000 ft. per acre.

The remainder of the province, extending to what is at present considered the northern limit of merchantable timber, about the 57th parallel, constitutes a very important forest region, which has been until recent years unknown and unappreciated. The topography here is less mountainous, the valleys are broader and more rolling, features which simplify logging conditions and increase the value of the timber. The chief species are Engelmann spruce, white spruce, balsam, fir, lodgepole pine, Douglas fir, hemlock and cedar. Spruce is the most important tree in this list ; the stand varies from 4,000 to 20,000 ft. per acre, averaging about 8,000 in mature forests. This zone compares favourably with the best pulp-producing regions of Ontario and Quebec. Throughout the timbered areas are splendid streams with good water powers. The spruce of this district equals Eastern spruce for pulp.

As might be expected in a province possessing so abundantly the raw material, the forest industry in British Columbia plays a great part in the economic life of the people. There are about 900 logging camps, 500 saw, shingle, pulp and paper mills, and the capital invested amounts to over £200,000,000. The yield per annum is valued at £11,600,000, exclusive of certain local manufacturing industries. As the markets develop the value of the output will be greatly increased. The present annual cut is just over 2,000,000,000 feet, board measure. The annual growth of timber is estimated to be over 6,000,000,000 feet, and the yearly cut may, therefore, be safely doubled or even trebled.

The chief market for British Columbia timber has been the Canadian Prairie. Three-fifths of the annual cut goes there ; one-fifth is used in British Columbia, the remainder is shipped abroad. The chief foreign markets in the order of importance have been the United States, Australia, New Zealand, Africa, South America, China and Japan, the United Kingdom, and Europe. British Columbia timbers, especially Douglas fir, spruce and red cedar, are excellently adapted for service in foreign countries. The chief impediment to their greater use is the present lack of foreign selling and transportation facilities. A further difficulty is the competition of Scandinavian and United States timbers which are at present produced more cheaply. The efforts of Canadian lumbermen will remove or decrease the effect of these handicaps, and an increase in the exports may be expected.

The forests of British Columbia are, with few exceptions, State owned. The Government derives a rental from revenue on timber lands leased or licensed to operators, and in the form of a royalty on the timber cut. A Forest Service has been established and modelled somewhat upon the lines of that built up by the British in India. The chief expenditures are for fire protection and supervision of cutting. There has been no need for planting, the natural reproduction in nearly all localities being sufficient, if fire is prevented. The policy of the Government is to maintain the forest in unimpaired condition as the support of the leading industry and the chief source of revenue.

A FINISHED PRODUCT OF THE TIMBER INDUSTRY *Photo, C.P. Rly.*
Telegraph poles, ready for shipment

FISHERIES.

One of the most important and profitable industries in British Columbia is fishing. For many years this industry has been carried on all along the coastline of the mainland and of Vancouver Island. The aggregate returns have amounted to hundreds of millions of dollars.

The profits naturally vary in different years, according to the number of the catch and the price obtained. For the five years previous to 1930, the average annual value of the British Columbian fisheries amounted to over £5,000,000. The salmon fisheries are the most important, with the halibut, whale, herring and codfisheries completing the list. The salmon canneries employ large numbers of men and operate with special machinery which disposes of the fish at the rate of 3,000 an hour. Every particle of the fish is utilised, the refuse being turned into fertilisers. It is fifty years since salmon canning was first begun on the Pacific coast, and canned salmon is now a staple article of food all over the world. The fishing is conducted by traps, nets and seines, and engages the services of thousands of fishermen.

The halibut fisheries come next in importance, and this industry is carried on with steam trawlers carrying dories or stout fishing boats, on the same system as is practised on the Atlantic coast. Halibut are a deep-sea fish, and baited hand-lines are used in their capture. The halibut banks are found off the central and northern coasts of British Columbia and Vancouver Island, notably to the north, and cover many miles in extent. Cold storage, warehouses and packing plants, with facilities for making immense quantities of artificial ice, are used in the halibut trade. The shipping of fresh halibut by means of cold-storage promises to become a prime factor in the British Columbian fisheries of the future. The canning of halibut is also expected to be developed on a large scale. Halibut range in size from 10 lb. to 100 lb., and are one of the most delicious varieties of fish for the table that the salt water affords. Herring are caught in seines and cured by the ton in British Columbia, being at present shipped mainly to the Orient. They are claimed to be equal to the European herring when properly cured, and are found all along the coast of the province, which has a very extensive littoral.

British Columbia's whale fisheries are important, and come under the term of " offshore whaling "—where the fish are towed ashore, and the entire carcase utilised. Whale oil and fertilisers are the principal products, although portions of the flesh are salted for shipment, principally to China and Japan. The different species comprise the fin-back, hump-back and silver-bottom, with occasionally a sperm whale. The whale fishing is conducted with the most modern appliances—steam vessels, bomb lances fired from short, breech-loading cannon, and, finally, the scientific disposal of the carcases without waste. Fishing for cod, and several varieties of skil, commonly called cod fish, is still in its early stages ; but these fish are very plentiful, and their catching and curing, or shipping by cold storage, will develop into an important branch of the British Columbian fishing industry. The work is carried on by steamers and schooners equipped with dories, the fishermen using hand-lines. Mechanical driers have been introduced in this department of the fisheries, and they are claimed to be far superior to the old style process—sun and wind drying.

From one end of British Columbia's coast to the other, there are many specimens of small fish, among which may be mentioned the oolachan, sardine, smelt, anchovy and pilchard ; and the waters of the Pacific, which wash the shores of British Columbia, abound with bass, whiting and other fish. Clams, crabs, shrimps, cockles, prawns and mussels, are common, and a small native oyster is found in considerable quantities at some points along the coast. Clam canneries have been started in various places in the province, and the utilisation of these minor forms of sea-food will be carried on extensively in the future.

EDUCATION AND SOCIAL CONDITIONS.

This province affords excellent educational opportunities. The school system is free and non-sectarian, and is equally as efficient as that of any other part of the Dominion. The Government builds a school-house, makes a grant for incidental expenses, and pays a teacher in every district where twenty children between the ages of six and sixteen can be brought together. For outlying farming districts and mining camps, this arrangement is very advantageous. High schools are also established in cities, where the classics and higher mathematics are taught. Several British Columbian cities now have charge of their own public and high schools, and these receive a very liberal *per capita* grant-in-aid from the Provincial Government.

The high schools are distributed as follows : Victoria (Victoria College), Vancouver (Vancouver College), New Westminster, Nanaimo, Duncan, Nelson, Rossland, Cumberland, Vernon, Kaslo, Chilliwack, Grand Forks, Kamloops, Armstrong, Golden, Kelowna, Enderby, Peachland, Penticton, Salmon Arm, Ladysmith, and Revelstoke. There is a Provincial Normal School at Vancouver, and many excellent private colleges and boarding schools. Victoria and Vancouver Colleges are affiliated to McGill University, Montreal, and have high school and university departments. The Legislature have passed an Act providing for the establishment of the University of British Columbia, for the endowment of which 2,000,000 acres of the public lands have been set apart.

The population of British Columbia, widely scattered and composed of many nationalities, is singularly peaceful and law-abiding. Life and property are better protected, and individual right more respected, even in the isolated mining communities, than in some of the great centres of civilisation in other lands. The province, though new as compared with other countries, enjoys all the necessaries and many of the luxuries and conveniences of modern life. There are few towns which are not provided with waterworks, electric light, and telephones. The hotels are usually clean and comfortable, and the stores well stocked with every possible requirement. There is little individual poverty. A general prosperity is the prevailing condition throughout the country, for no one need be idle or penniless who is able and willing to work. The larger towns are well supplied with libraries and reading rooms, and the Provincial Government has a system of travelling libraries, by which the rural districts are furnished free with literature of the best description. The spiritual welfare of the people is promoted by representatives of all the Christian denominations, and there are few communities, however small, which have not one or more churches with resident clergymen. All the cities and larger towns have well-equipped hospitals, supported by Government grants and private subscriptions, and few of the smaller towns are without cottage hospitals. Daily newspapers are published in the larger places, and every mining camp has its weekly or semi-weekly paper.

HUNTING.

The sportsman will find a greater variety of fish and game in British Columbia than in any other part of North America; there are, indeed, few regions than can boast of

Photo, C.P. Rly.

PEACE RIVER TOWN, IN THE FAR NORTH-EAST OF BRITISH COLUMBIA

Photo, High Commissioner for Canada

THE PROVINCIAL PARLIAMENT BUILDINGS, VICTORIA, CAPITAL OF BRITISH COLUMBIA

anything like the same variety of species. Whether with rifle or smooth-bore, or with rod, there is an almost bewildering choice. The three great parallel ranges of the mainland hold an immense amount of big game. In the Rockies there are big-horn sheep, goats, caribou and deer ; in the Selkirks, goats and caribou ; and in the Coast Range, goats and numbers of the true blacktailed deer. Grizzly bears are found in several districts, while black bears are to be found in numbers throughout the province. The mule deer, miscalled blacktail, is so abundant in East Kootenay, the Boundary country, Okanagan and Lillooet, as to be a certain source of supply for the ranchers and miners to draw upon. Elk (wapiti) shooting may be indulged in by those visiting the northern end of Vancouver Island. It is believed that the elk is extinct upon the Mainland, with the possible exception of the south-east corner of the province, but on Vancouver Island it is tolerably abundant, although it frequents a densely forested region, so that the hunting means hard work.

Although few persons, however keen, would visit British Columbia merely for the sake of its wing shooting, yet it is undeniable that, with the exception of Manitoba, Alberta and Saskatchewan, a man may find as much work for his breach-loader in the province as he would abroad anywhere. Five species of grouse and vast quantities of wild fowl, from swans to teal, abound in suitable localities. The marshes of the Columbia swarm with mallard and other choice duck in the autumn ; the Arrow Lakes and the upper valley of the Fraser form a trough much frequented by the wild geese during their migrations ; and the fiords and sounds of the coast shelter great flocks of wild fowl throughout the winter—for it must not be forgotten that the winters of the Pacific are very much less rigorous than those of the Atlantic, and that a very large proportion of the birds do not go further south than Vancouver Island.

The fishing of British Columbia is so remarkably good that no one can realise the quantities of salmon and trout to be found in the streams of this province until he has visited it. The quinnat and cohoe salmon may be taken in salt water at certain seasons in large numbers by means of a spoon bait, and a few crack fishermen have succeeded in taking the quinnat in fresh water, but as a rule British Columbia salmon, with the exception of the Spring, or Tyee, do not rise to the fly. However, the trout will more than make up for the salmon's lack of appreciation. The rainbow trout is, possibly, the finest fish for his inches of all the trout family, and, happily, he is extraordinarily numerous in many of the inland waters. Where he is not found, his place is taken by the black spotted trout, an excellent fish, though hardly the equal of the rainbow. Very heavy lake trout are found in all the larger sheets of water. Shuswap Lake may be mentioned as especially good, and easy of access. An excellent hotel has been built at Sicamous, on the very edge of the lake, at which many sportmen reside each summer for weeks at a time, in order to enjoy the fishing and shooting of the neighbourhood.

VANCOUVER.

This, the commercial metropolis and mainland terminus of the Canadian Pacific Railway, incorporated in 1886, is the largest centre of population, estimated at over 130,000. The trade of the city is large and steadily increasing, as it is an important distributing point for the northern and interior districts, and the home port of the Canadian Pacific Empress liners and Canadian-Australian Transpacific mail steamships. Vancouver harbour is one of the finest in the world, land-locked and sheltered from all points, and roomy and deep enough for the largest vessels.

The city of Vancouver possesses many fine public buildings, business blocks and private residences, and new structures are being continually added. The churches, schools, libraries, hotels and clubs are quite equal to buildings of similar class in the older cities of the East, and give one the impression of solidity and permanency. The Hotel Vancouver, owned by the Canadian Pacific Railway Company, is one of the best equipped in Canada, and is well known to world travellers. One of Vancouver's great attractions is the magnificent Stanley Park, with its groves of great towering firs and cedars, a wonder and delight to visitors.

Vancouver has connections by land and sea with all important points on the coast and in the interior. The steamships of the Canadian Pacific Railway and other lines ply between the city and places along the coast, as far north as Alaska and south to San Francisco. Steamers make daily trips in the summer between Vancouver, Victoria and Seattle (U.S.A.). Direct railway connection is made with every point on the continent, from Halifax to Mexico. The city has a very complete electric railway system, with extensions to New Westminster, Lulu Island and Chiliwack. The water supply is unlimited, and of superior quality, and the sewerage system is constructed on modern lines. Telephone connection is made by cable with Victoria and other cities and towns on Vancouver Island, as well as all points in the Fraser Valley, and the city of Seattle. A power tunnel provides a water head sufficient to develop 300,000 horsepower. There are four daily newspapers, and several weekly and monthly magazines which are really excellent productions.

VICTORIA.

Victoria is the seat of Government and the capital of British Columbia. It is charmingly situated on the south-east of Vancouver Island, and for climate and surroundings has no rival in Canada. Victoria is the oldest town in the province, dating back to 1846, when it was known as Camosun, a Hudson Bay Company's trading post. Victoria leaped into prominence during the gold excitement in 1858, and grew rapidly in trade and population. The city is substantially built, there being many fine stone and brick blocks in the business portion, while the private houses, surrounded by beautiful lawns, gardens and shrubberies, are picturesque and cosy. The Parliament Building, overlooking James Bay, is one of the finest examples of architecture in America. It contains fine collections of natural history, mineral, agricultural and horticultural specimens, and is a centre of great interest to travellers. Beacon Hill Park, a natural pleasure ground, facing the Strait of Juan de Fuca, affords one of the most magnificent views in the world, the snow-clad heights of the Olympian Range and the noble dome-like Mount Baker, forming the background of an enthralling picture. Victoria Arm forms one of the most beautiful stretches of inland water imaginable, and there are many other delighful bays and inlets which lend peculiar attraction and variety to the scene. With such a wealth of natural beauty, Victoria is fast becoming the Mecca of the tourist, many thousands from all parts of the world visiting the city every year.

In addition to its beauty and attractiveness, the city is an important business and industrial centre. It shares with Vancouver the northern trade and that of the interior, and its shipping, lumbering, mining, sealing and fishing interests are very considerable. The development of the resources of Vancouver Island must naturally benefit Victoria. The city is growing steadily in population (estimated to be over 45,000 in 1929), many persons of independent means choosing it as a place of residence, while new enterprises are giving employment to more labourers and artisans.

IN THE SILENT PLACES OF THE GREAT NORTH-WEST

Victoria is the first port of call for the Transpacific liners and northern steamers, as well as all the big freighters bound for Puget Sound. It is the home port of the Victoria sealing fleet, the Canadian Pacific Coast Service, and of many coasting vessels. Daily communication is maintained with Vancouver, Seattle and other points, and there is a tri-weekly service to San Francisco. The distance between Victoria and Seattle is 80 miles, and Victoria and Vancouver 84 miles. The Grand Trunk Pacific Railway Company runs its magnificent steamships between Victoria, Vancouver, Seattle, and Prince Rupert. The Company has also built extensive docks and warehouses on Victoria harbour.

The city has an electric street railway system, and gas and electric light services. The business streets are paved and well kept, and cement sidewalks have been laid on all the principal thoroughfares. There are about 90 miles of paved streets. The waterworks and sewerage system are being extended to meet the requirements. There is telephone connection with all the principal points on the island and lower mainland, and with Seattle. Victoria's western suburb, Esquimalt, was at one time the headquarters of His Majesty's Royal Navy's North Pacific Fleet, but the ships, with the exception of one or two, have been withdrawn, and Canada has undertaken the maintenance of the fortifications, which are among the strongest in the Empire. Esquimalt has a fine harbour, formerly used exclusively by the navy, which has been opened to merchant vessels. The manufacturing industry of British Columbia, which is largely centred in these two cities, is only in the early stages of development. The total output of finished products is, however, valued at £50,000,000 a year.

The other important towns are New Westminster, Nanaimo, Rossland, Nelson, Kaslo, Ladysmith, Port Alberni, Kamloops, Revelstoke, Fernie, Grand Forks, Greenwood, Trail, Cranbrook, Vernon, Armstrong, Enderby, Kelowna, Prince Rupert, Fort George, and Creston. (See *Gazetteer of Cities and Towns of the Empire*).

NORTH-WEST TERRITORIES.

This vast and largely unexplored region forms a belt of territory across the extreme north of the American Continent, dividing the self-governing provinces of the Dominion from the Arctic Ocean. It has a total area of 1,309,682 square miles, of which about 51,465 square miles is believed to be composed of water. The population of this enormous territory is little more than 9,000.

The Canadian territory north of the provinces, exclusive of the Yukon, was divided into the districts of Keewatin, Ungava, Mackenzie and Franklin, which were administered as a whole. In 1912 Ungava was included in Quebec Province, Keewatin divided between Manitoba and Ontario, while Mackenzie and Franklin were merged to form the present North-West Territories. They include all the Western Continent north of the Canadian Provinces, except Alaska, Yukon, and Greenland. The greater portion of this territory is ice-bound, and has never been explored.

The single name, *North-West Territories*, which formerly included the whole of this northern region has now been superseded by the four names : District of Keewatin, District of Mackenzie, District of Franklin and Yukon Territory.

These territories have short, hot summers and correspondingly long, cold winters, the temperature sinking on occasions to 65 degrees below zero. Its animals are therefore chiefly fur-bearing, and since the days of the old Hudson Bay forts, the sale of furs has been practically the only trade of the region. Arctic exploration has lent fitful interest to certain portions of the islands and mainland, and the present problem, regarding the possibilty of transferring wheat from the Central Provinces to England and the Continent by way of Hudson Bay and Strait, as an auxiliary to the route *via* the Great Lakes and the St. Lawrence River, is lending zest to exploration.

In the western portion of the North-West Territories the great water system of the Mackenzie, includes the Athabasca, Peace and Laird Rivers, with the Athabasca, Great Bear and Great Slave Lakes. Great Bear Lake is fourth, and Great Slave Lake eighth in point of size among the principal lakes of North America. The Mackenzie River and its lakes extend for a distance of 620 miles north and south ; with the addition of its tributary, the Athabasca, its length is 1,000 miles. Along its banks many vegetables are grown, and every year, at Providence Mission, in latitude 62 deg. N., wheat is raised.

The population consists principally of a few thousand Indians in the more habitable parts, but in the north there are only Eskimos.

YUKON TERRITORY.

The extreme north-west corner of the great Canadian Dominion is formed by the territory of the Yukon, which has a total area of 207,076 square miles, only 1,730 square miles of which is composed of water. The population of this vast ice-bound land is little more than 3,000, many of whom are Indians.

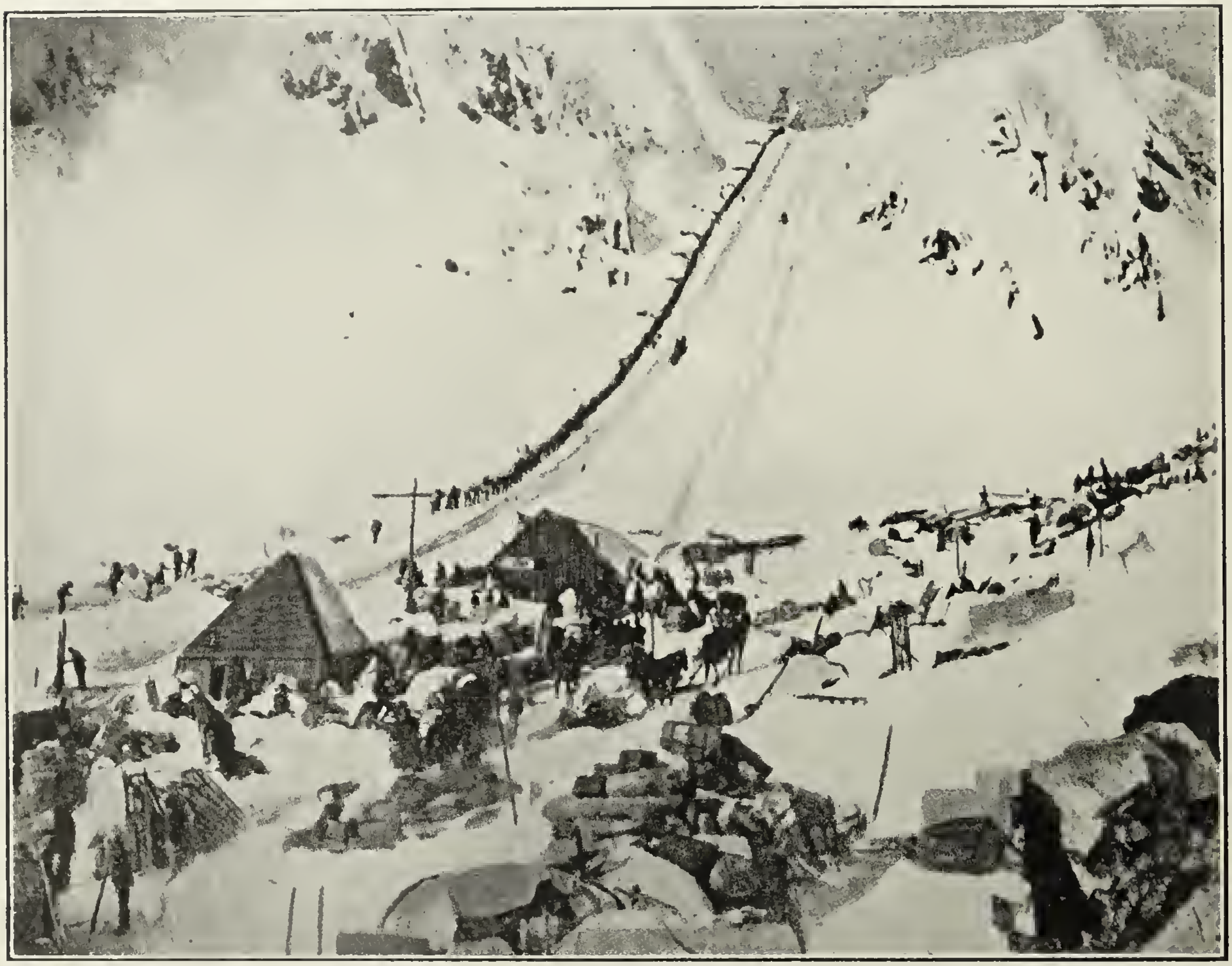
Less than forty years ago the Yukon territory was unknown to all save a few trappers and explorers. Rumours that the Russians before they sold the adjoining territory of Alaska to the United States had found considerable deposits of gold therein were discredited by the commercial world. Yet the subsequent gold-boom attracted all sorts and conditions of men to the icy-north, and to-day the frozen wastes of Alaska and the Yukon, especially the former, are being conquered, the rivers navigated, and the snow-fields and rugged mountains crossed by that great harbinger of progress, the railway line.

DAWSON CITY, YUKON TERRITORY *Photo, C.P. Rly.*

THE STORY OF THE KLONDIKE.

So much has been written about the historic Klondike Gold Rush of 1896-7 that it may be of interest to give here a brief account, taken from Government records, of this great adventure.

In 1894 Robert Henderson, of Nova Scotia, and a small party arrived in the territory. They prospected along the bars of the upper Yukon and rocked out $54 in fine gold at the mouth of the Pelly. When they reached the trading post at Ogilvie, Joe Ladue contributed the latest information respecting the strikes or discoveries which had been made. As a result of the information furnished by Ladue and after a short stay at Ogilvie, Henderson started for Indian River. He prospected along this stream to the mouth of what is now known as Quartz Creek, up which he proceeded to the divide on Hunker. No large prospects were found, and Henderson prospected on various creeks in the watershed of Indian River. After cleaning up about $600 for the season on Quartz Creek he crossed the divide to Gold Bottom where he found a two cent prospect. During the summer of 1896 Henderson made a trip to Ladue's post at Ogilvie for supplies. The water in Indian River was low and he knew that it would be almost impossible to proceed up that stream. He came to the conclusion that Gold Bottom flowed into a tributary of the Yukon some distance below Ogilvie, so proceeded down the Yukon to its confluence with the Tron Deg, now known to the world as the " Klondike," where he

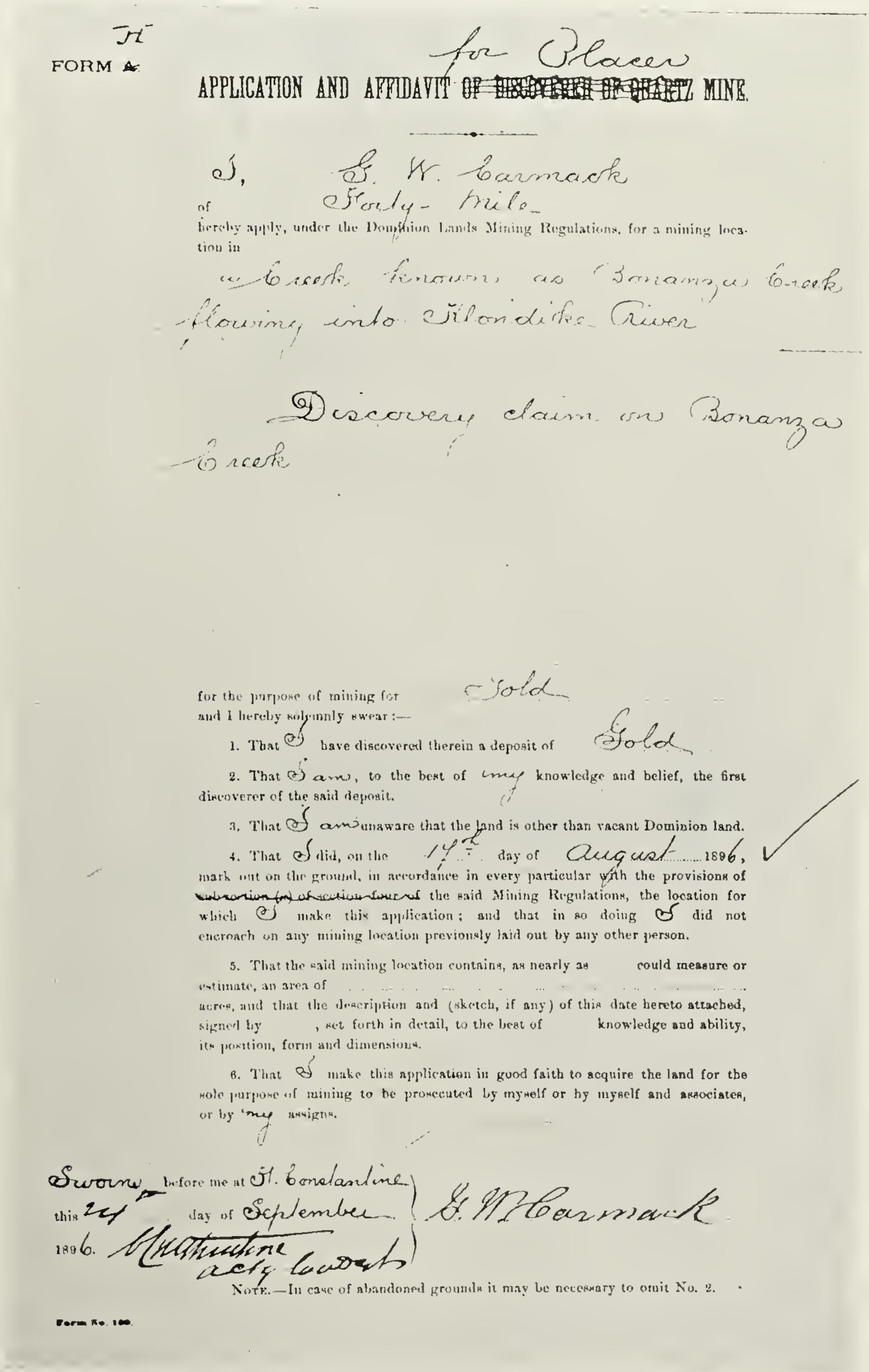


CHILKOOT PASS 1898

found George W. Carmack and two Indians named "Tagish (Skookum) Jim" and "Tagish Charlie," who were fishing for salmon. In accordance with the usual custom Henderson announced the discovery of Gold Bottom and invited Carmack to stake there. A short time afterwards Carmack and the two Indians proceeded to Gold Bottom and staked claims adjacent to Henderson's location. Henderson states that he advised Carmack and the Indians to cross the divide and prospect in the gravels of what is now known as Bonanza Creek and asked Carmack to advise him, by sending back an Indian, if good prospects were discovered.

"Tagish (Skookum) Jim," Carmack and Charlie found rich prospects on Bonanza and Carmack staked Discovery (which included No. 1 below), "Tagish (Skookum) Jim" No. 1 above and "Tagish Charlie" staked No. 2 below. Carmack and the Indians, without notifying Henderson, at once proceeded to Fortymile and filed their applications with the recorder for the district. Up to this time the majority of the miners in the territory had been working the Fortymile, but as soon as the discovery on Bonanza became known many of the miners stampeded to the new strike and in a short time the creek was staked from end to end. Meantime Henderson was working on Gold Bottom and did not hear of the new strike until too late to secure a claim. Extensive prospecting at once commenced on Bonanza and in a few months the remarkable wealth contained in its gravels was revealed.

As soon as the news of the rich strike reached the outside world, thousands of gold seekers immediately started for the Klondike. Probably never before in the history of gold mining camps has there been



FORM ~~A~~ H

APPLICATION AND AFFIDAVIT for Placer ~~OF DISCOVERER OF QUARTZ~~ MINE.

I, G. W. Carmack

of Forty-Mile

hereby apply, under the Dominion Lands Mining Regulations, for a mining location in

a Creek known as 'Bonanza Creek flowing into Klondike River'

Discovery claim on Bonanza Creek

for the purpose of mining for Gold

and I hereby solemnly swear:—

1. That I have discovered therein a deposit of Gold

2. That I am, to the best of my knowledge and belief, the first discoverer of the said deposit.

3. That I am unaware that the land is other than vacant Dominion land.

4. That I did, on the 14th day of August 1896, mark out on the ground, in accordance in every particular with the provisions of ~~subsection (a) of section four of~~ the said Mining Regulations, the location for which I make this application; and that in so doing I did not encroach on any mining location previously laid out by any other person.

5. That the said mining location contains, as nearly as could measure or estimate, an area of .... acres, and that the description and (sketch, if any) of this date hereto attached, signed by , set forth in detail, to the best of knowledge and ability, its position, form and dimensions.

6. That I make this application in good faith to acquire the land for the sole purpose of mining to be prosecuted by myself or by myself and associates, or by my assigns.

Sworn before me at Ft. Constantine
this 24th day of September
1896.
acty [illegible]

G. W. Carmack

NOTE.—In case of abandoned grounds it may be necessary to omit No. 2.

Form No. 100.

FAC-SIMILE OF THE APPLICATION OF GEORGE WASHINGTON CARMACK FOR DISCOVERY OF GOLD ON BONANZA CREEK. THIS STARTED THE KLONDIKE GOLD RUSH such a rush of people from almost every country in the world and of almost every vocation in life, as was seen in that irresistible stream of fortune-seekers, who, in the winter and spring of 1898, climbed the Chilkoot pass and pressed on to Lake Lindeman, where the most primitive boats and other flimsy craft were hastily constructed for the journey of 500 miles down the Yukon River to Dawson.

A sad event in the history of this great stampede occurred one morning on the trail between the summit of the Chilkoot Pass and Sheep Camp. For some distance between these two points the trail leads along the bottom of a steep mountain, and a long line of gold seekers were labouriously toiling along this stretch of the journey, some bearing their heavy burdens of supplies in packs and some on sleds, when suddenly a huge mass of snow came plunging down the mountain side, striking the line of travellers and burying between 50 and 60 men. Those who escaped the avalanche at once began digging for their comrades, very few of whom were rescued, some of the bodies not being discovered until the snow disappeared in the spring. Such is an instance of the dangers which confronted, in the early days, the thousands of adventurers who contracted the gold fever, and who were unaware of the innumerable hardships and dangers to be encountered and the obstacles to be overcome on the journey to the new diggings.

All through the summer of 1898 the gold-stakers continued to come in thousands, many of them inexperienced in mining of any kind or with knowledge gained in other placer fields that seemed to be of small service here. Against the advice and to the great amusement of the few Sourdoughs in the community the hills and benches on Bonanza and Eldorado were staked by the Cheechakos (newcomers) and proved to be immensely rich.

It was not unusual for claims, which a few days' work would have shown to be rich, to change hands for trifling sums often under amusing circumstances. Thus, a well known Swede, having made his winter's grub stake mining on the Fortymile bars in the summer of 1896, came down to Fortymile post at the end of the season to ease up for a few days and to buy his winters' outfit. While there he met a miner just returned from the new camp, who had staked a claim on the creek subsequently called " Eldorado." Not thinking the claim of any real value he is alleged to have got the Swede drunk and then sold him the claim for all the money he had left, which was $800. On sobering up the next morning the new owner endeavoured to get his money returned but without success. He thereupon secured a small amount on credit, and as soon as the ice formed on the river went to have a look at his new claim. The first hole proved it to be exceedingly rich and the claim subsequently produced well over a million dollars in gold.

On the 3rd of July, 1897, G. A. Lancaster located a Bench claim on the left limit of No. 2 Eldorado Creek. This claim included a portion of what subsequently became known as Gold Hill. Lancaster immediately started work on his claim by making an open cut. This was the first claim located and the first gold mined from the famous White Channel gravels.

Yukon's early history is prolific of incidents and adventures worthy of record in the history of that territory but, suffice it to say, that the pioneers of this great north land worthily upheld the best traditions of an admittedly great pioneering race.*

The northern, or Arctic territory of the Yukon is almost exclusively devoted to gold mining in the famous Klondike region around Fort Reliance. The commercial centre of this desolate land, which stretches to the shore of the Arctic Ocean, is Dawson City. This collection of wooden shanties, some of which are of very large proportions for wooden structures, has a population of about 900 ; and despite its remoteness, there are telephones, a variety theatre, and electric light.

For over seven months in the year this region is in the icy grip of Arctic winter, daylight is of short duration, and the sky is often brilliant with the lights of the Polar night. It is no unusual thing for thermometers to record 65 degrees below zero. The proximity of the Pacific does not prevent the long, severe winters which mark the approach to the Arctic Circle. In the northern portion of the territory the ground below the surface remains frozen throughout the year. The short summer is often unbearably hot, and mosquitoes are very troublesome.

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* *The Yukon Territory.* N.-W. Territories and Yukon Branch, Department of the Interior, Canada.

CLIMATE.

" The climate of the Yukon Territory is characterized by extremes in temperature and a very moderate precipitation. There is no more delightful climate than prevails from May 1 to October 1. The continuous light for the whole twenty-four hours, during the period from the middle of May to the first week in August, although anticipated, is a source of delight and wonder to the visitor. While the winters are long and cold, on account of the absence of high winds and the dryness of the atmosphere the low temperatures are borne with less discomfort than in other parts of the north not so favoured.

"The climate is healthful at all seasons of the year as is well evidenced by the robust type of children seen in all parts of the territory. The extreme range of temperature is from 125 to 153 degrees or an average of about 142 degrees. The maximum recorded at the Dawson Meteorological Station is 92 degrees above and the minumum 68 degrees below zero. The average precipitation is 12.8 inches per year, the greatest precipitation on record being 17.9 and the least 9.3 inches. The accumulated measurements of each snowfall averages about 60 inches a year. The depth of snow remaining on the ground would be equal to the sum of the previous falls if no causes of diminution existed, but as the depth is reduced by compression and by waste attendant on evaporation and melting, particularly in the fall and spring months, the actual depth remaining at any time is usually about 30 inches.

" There are a large number of optical and atmospheric phenomena which here, more than in most arctic lands, arrest the attention of observers on account of their magnificence and beauty, such as the Aurora Borealis presenting itself in varied and magnificent forms, solar and lunar halos, parhelia and parselenæ displaying brilliant and wonderful prismatic colours, solar and lunar coronæ, rainbows and colourations of the sky.

" The Yukon is a land of flowers. Hundreds of types of flowers, plants and shrubs grow wild on every hill and valley. Nature responds generously where flowers are cultivated and one of the lasting impressions left with the visitor is the variety and beauty of the blooms which decorate the homes and beautify the grounds of Dawson."

TRANSPORT.

" The Yukon River is navigable from Behring Sea to Whitehorse, a distance of over 2,000 miles, and, during the season, from about the 10th of June until the 5th of October, this river and its tributaries is the great channel of transportation from the coast to the interior of the Yukon and Alaska. The railway of the White Pass and Yukon route extends from tidewater at Skagway, Alaska, where connection is made with ocean-going vessels, to Whitehorse, Yukon Territory, 110 miles distant and the head of steamboat navigation on the Yukon River. This railroad crosses the coast range of mountains and at 19.7 miles from Skagway attains an altitude on the White Pass summit of 2,887 feet. At this point the railroad crosses the boundary between Alaska and British Columbia. The scenery between Skagway and White Pass is of the most wild and rugged description. From White Pass summit to Lake Bennett, British Columbia, the railway passes through the foothills of the coast range and then follows the shore of Lake Bennett where it enters the Yukon Territory and reaches Carcross, which has an altitude of 2,171 feet and is 66.7 miles from Skagway.

" The splendidly equipped fleet of steamers of the British Yukon Navigation Company of the White Pass and Yukon system ply on regular schedules between Whitehorse and Dawson, giving a service from the terminals about each alternate day but depending to a considerable extent upon the volume of traffic to be handled. The trip between Whitehorse and Dawson is made in two days (down-stream) and from Dawson to Whitehorse (up-stream) in four days.

" During the period of closed navigation and for the primary purpose of carrying the mails, stages are operated on a weekly schedule between Whitehorse and Dawson, with a connecting service from Mayo to Crooked Creek. Trucks and caterpillars are used in this service between Whitehorse and

Yukon Crossing and stages, drawn by four horses, for the rest of the distance. A trip over this trail during February or March, when the trail is at its best, is a delightful experience. Every comfort is provided on the stages and at the various road houses en route.

" Dog teams are still used by the Indians and by prospectors, hunters and trappers, in sections of the territory remote from the larger centres. Caterpillars are gradually supplanting horses for heavy freighting."

ADMINISTRATION AND INDUSTRY.

The Yukon, which was instituted a separate political unit in the year 1898-9, is governed by a Gold Commissioner and an elected Yukon Council. There are also judicial, medical and police officials, with headquarters at Dawson, Whitehorse and Mayo. There are wireless stations (communicating with Edmonton, Alberta) at Mayo, Dawson, Aklavik (Arctic Ocean) and Herschel (Arctic Ocean, operated only during season of open navigation).

Gold mining is one of the principal industries, and the value of the output, which has been declining for many years, averages about £120,000 a year. Wheat has been grown for twelve consecutive years at an experimental farm near Dawson and has matured quite well. Garden peas and beans do well, and cattle, sheep and poultry are being raised in small numbers. There are a number of fur farms near Whitehorse and about 36,000 pelts are annually exported.

CANALS

ALTHOUGH no mention will be made here of the immense number of small inland canals, for local navigation or irrigation purposes, which exist in various countries of the Empire, there are several highly important systems, largely used by shipping, which call for special description.

The canals of the British Isles have a total length of 4,673 miles. This figure, however, includes rivers which have been converted into canals. England and Wales possess 3,641 miles of these waterways, Scotland 184 miles and Ireland 848 miles. No recent statistics are available giving the annual amount of merchandise passing over the system, but it is estimated to be somewhere between 16 and 20 million tons.

A Royal Commission, appointed in 1906, delivered a report in 1909 suggesting a development scheme under an Inland Water Board. Four main systems were advised, which could be developed from the existing canals. These routes were to radiate from a centre in South Staffordshire (present canal system) to (1) the Mersey (Liverpool), (2) the Humber (Hull), (3) the Severn (Gloucester and the Bristol Channel), and (4) the Thames (London). Large sections of these routes already existed, but were to be improved and made available for barges up to 100 tons. The Railway Executive Committee also administers just over 1,000 miles of these shallow canals.

MANCHESTER CANAL.

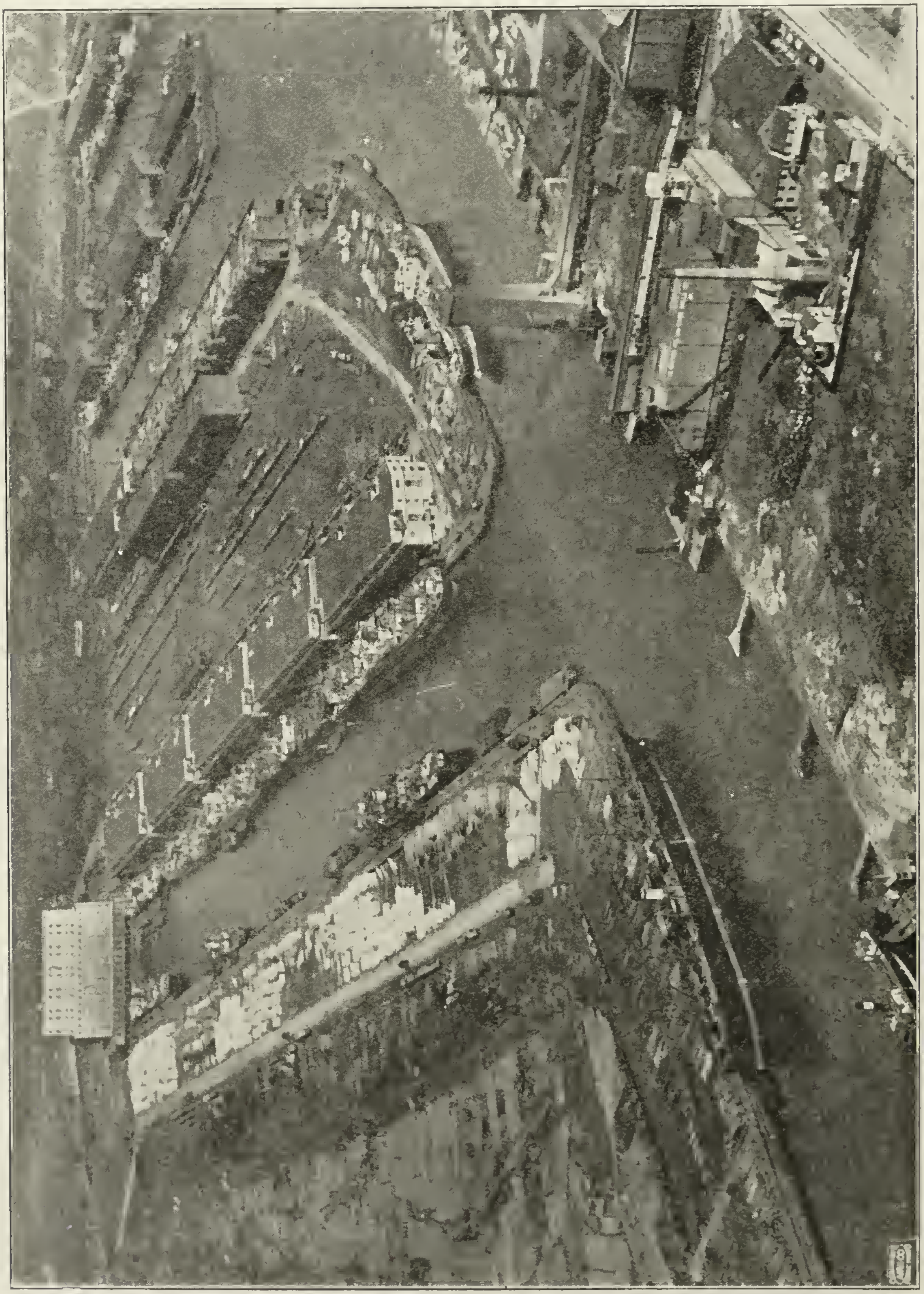
The Manchester Ship Canal was built to enable vessels to load and discharge their cargoes of cotton and other merchandise at Manchester (England) without transhipment at Liverpool. Running from Eastham to Manchester, it is 35 miles in length, 28 feet deep, with a minimum bottom width of 120 feet. The cost of construction was £15,500,000. It was opened in 1894. Between five and six million tons of seaborne merchandise annually pass through this waterway.

The only canals of importance in the British Isles other than the one which makes Manchester a seaport, are the Caledonian and Crinan Canals. The first of these runs through Scotland (Glenore), and is principally used by fishing fleets and tourist steamers. The Crinan Canal cuts across the Mull of Kintyre, a long peninsula of Argyllshire (Scotland), and avoids the long journey round it.

SUEZ CANAL.

The most important of these waterways of the Empire is the Suez Canal, which is owned by the *Compagnie Universelle du Canal Maritime de Suez*, an Egyptian company with a capital of 200,000,000 francs, made up of 400,000 shares of 500 francs each. In 1875 the British Government bought 176,602 of these shares from the Khedive of Egypt at a cost of £4,000,000. In 1920 the five hundred franc shares were divided into two shares each with a par value of 250 francs. This gave the control of this great ship canal, which forms part of the Imperial highway to India, the Far East and Australia, into the hands of Great Britain. (See *Egypt*). Financially it was a splendid investment of the nation's funds. The shares are now worth between £35,000,000 and £40,000,000.

By a Convention, signed in 1888, this canal is exempt from blockade. It is managed by thirty-two administrators, of



Photo, Airco

THE MANCHESTER SHIP CANAL FROM THE AIR

By kind permission of the Manchester Ship Canal Co.

whom ten are of British nationality (three appointed by the Imperial Government, and seven by British shipping interests). The construction of this canal, opened in 1869, shortened the distance from England to Australia by 1,000 miles ; but as the dues charged are so heavy, it is only used by vessels carrying mails and cargoes requiring rapid transit. It is about 101 miles long, and runs from Port Said on the Mediterranean, through Lakes Menzaleh and Timsah, and the Bitter Lakes, to Suez on the Red Sea. It can be used by vessels of 32 feet draught, as it has a depth of 34½ feet. It is 147 feet wide, and cost £29,725,000 to construct. The average time occupied in traversing this canal by a steamship is 15½ hours. About 5,000 vessels, having an average tonnage of 26,000,000 annually pass through this waterway. The British ships average in number about 2,750 a year.

WELLAND CANAL.

The most important canal in Canada is the Welland, which was opened in 1887, and connects the Great Lakes with the St. Lawrence River. It is 26¾ miles in length, 14 feet deep, 100 feet wide, and cost £5,000,000 to construct. The freight traffic through this canal averages between seven and eight million tons a year. The projected Georgian Bay Ship Canal would connect (largely by means of the Welland and natural waterways) Montreal, the maritime centre of Eastern Canada, to Georgian Bay, on Lake Huron. The object is to provide a short and cheap route for the transport of grain from the Prairie Provinces (CANADA *q.v.*) to the great ocean ports of the St. Lawrence. The canal would be 442 miles in length, with a minimum depth of 22 feet.

THE SUEZ CANAL AT PORT SAID *Photo, Underwood*

To-day there are six canal systems under the Dominion Government, namely (1) between Fort William and Montreal, (2) from Montreal to the International Boundary near Lake Champlain ; (3) from Montreal to Ottawa ; (4) from Ottawa to Kingston ; (5) from Trenton to Lake Huron and (6) from the Atlantic Ocean to Bras d'Or Lakes in Cape Breton. The total length of the waterways comprised in these systems is about 1,594 statute miles, the total capital cost being about 200 million dollars, and the average annual traffic using these waterways between 18 and 19 million tons.

KRAW CANAL.

From India comes the suggestion for a Kraw Canal. It is proposed to cut through the Isthmus of Kraw, between 10° and 11° N. latitude, at which point it is only 44 miles in breadth. A railway has also been proposed. This canal would diminish the distance between Calcutta and the ports of China by some 500–700 miles, that between Burma and Bangkok (Siam) by 1,300 miles, and that from Ceylon to Hong-Kong by about 300 miles.

The principal ship canals of the world will be seen in the following table :—

SHIP CANALS OF THE WORLD

Name of Canal.	Cost.	Date of opening.	Length.	Depth.	Width.
	£		miles	feet	feet
Panama	75,000,000	1914	50½	45	300–1,000
Suez	29,725,000	1869	101	34½	147
Kiel	19,000,000	1895	61	45	150
Elbe	1,200,000	1900	41	10	72
Manchester	15,500,000	1894	35½	28	120
Welland	5,000,000	1887	26¾	14	100
Amsterdam	2,600,000	1876	16½	23	88
Kronstadt	2,000,000	1890	16	20½	220

CAPE TO CAIRO RAILWAY

AND TRANS-AFRICAN ROUTES

THE great project of Cecil Rhodes for the construction of a railway line from Cape Town to Cairo, traversing the entire length of the African Continent, a total distance of about 6,830 miles (according to route), and linking up all the British spheres in south and south-east, central, east and north Africa, has become an accomplished fact, although not exactly in the way foreseen by the great Empire-builder, because of the advance made during recent years in mechanical road transport.

About 5,800 miles of the journey can now be made by rail and steamboat, and the remainder by public motor vehicle over good roads. The following is the principal route :

ALL RED ROUTE.—From Cape Town by railway across the Union of South Africa, Bechuanaland and Southern Rhodesia to *Broken Hill*, in Northern Rhodesia, a total distance of about 2,000 miles. Then by motor service, along what is known as the Great Northern Trunk Road to Kituta, a small harbour at the southern end of Lake Tanganyika, a distance of about 584 miles. From this point there is a lake steamboat service to Kigoma, about 320 miles. The next section of this long system is a railway from Kigoma to Shinyanga and Mwanza, a distance of 470 miles (a portion of this journey, up to 1930, had to be made by motor car as the line was not quite finished). Mwanza is a port on Lake Victoria, and from here there is a fine service of steamboats to Kampala. From this place the North Equatorial Motor Road, a section of the great trunk road from the Cape to the Nile, is traversed by a motor car service to Juba, on the White Nile, from which point there are the regular mail services of steamboats to Khartoum and rail to Cairo.

From this it will be seen that not only is it possible to travel from the Cape to Cairo by rail, river, lake and road in public vehicles, but it is also possible to branch east from this main trunk system, reaching ports in the Sudan, Kenya, Tanganyika, Portuguese East Africa and Natal by railway ; or, turning west, to reach the Atlantic coast of the Belgian Congo, by motor and steamboat service, and the coast of Angola, or Portuguese West Africa, by railway.

There are, of course, other routes from the Cape to Cairo, one of which passes through the Belgian Congo. This can also be entirely accomplished by public vehicles working on fixed timetables and fares. Whichever route is chosen, and through ticket arrangements can be made at either Cape Town or Cairo, at least 40 to 50 days should be allowed at present for the Transcontinental journey.

Not only have there been several flights by aeroplane from Cairo to the Cape, but landing grounds have been located, the route surveyed, and plans made for the inauguration of passenger and mail services.

A transcontinental telegraph line covering the whole distance, with many branch lines, has been in operation for a number of years.

CEYLON

AND

THE MALDIVE ARCHIPELAGO

BRITAIN'S premier Crown Colony is the beautiful Island of Ceylon, which lies, moist and green, rugged and mountainous, in the broad bosom of the Indian Ocean. It has an area of about 25,332 square miles, and a population of just under five millions. Like many of England's possessions in the East, it belonged first to the Portuguese and then to the Dutch.

HISTORY.

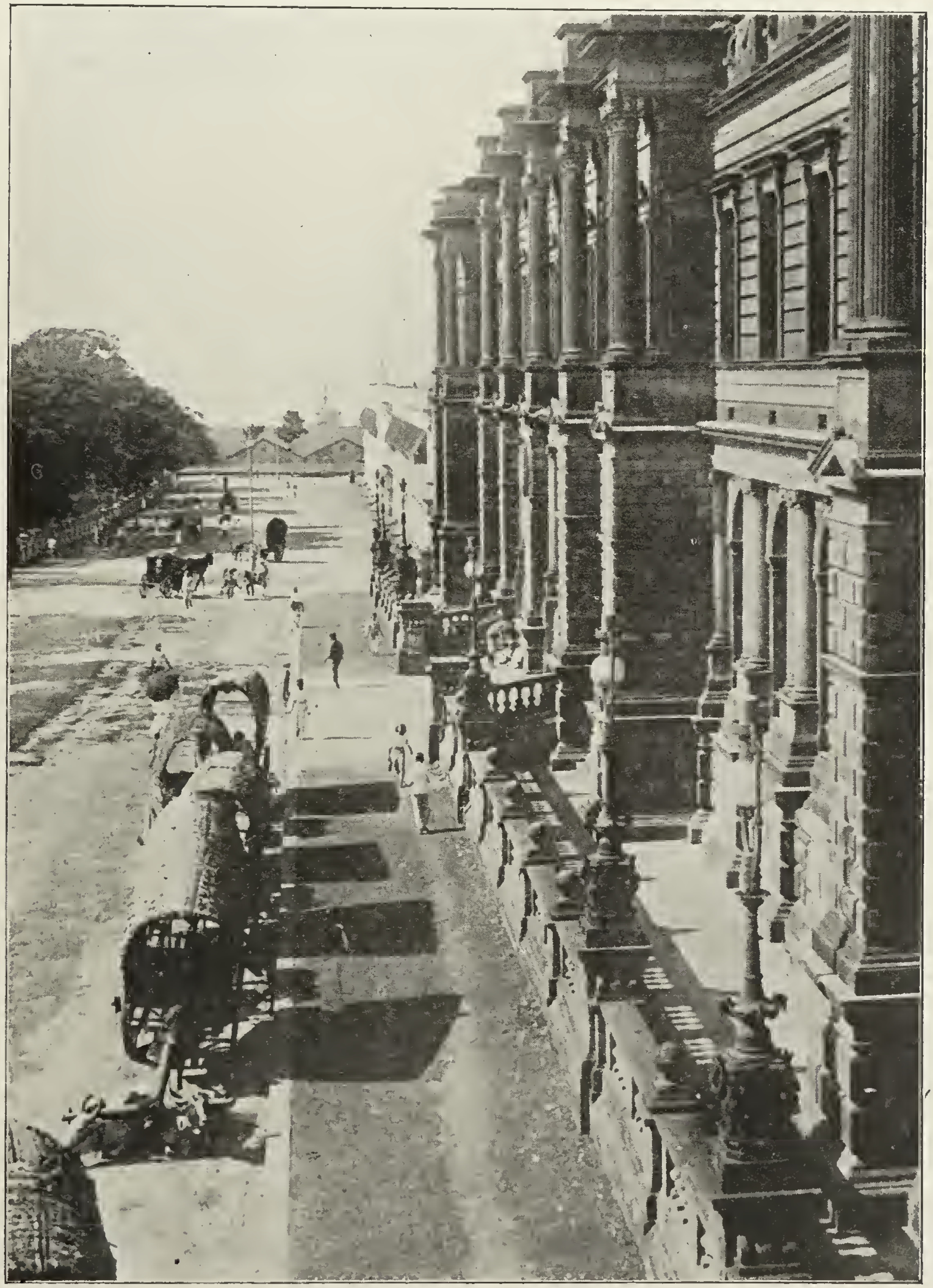
In writing the history of British colonial expansion, almost unconsciously the rise and fall of the Portuguese, Spanish and Dutch Empires are broadly outlined, so closely connected were the achievements of the four great maritime nations during the sixteenth and seventeenth centuries. France appears early on the scene in America and India, and later in the Near East; Denmark on the coast of Africa; Turkey, with the mysteriousness of the Oriental, springs into British Colonial History at divers times and places; Russia and Germany are modern rivals in the Far and Middle East; but, from the West Indies to China, and Africa to Malaya, the Portuguese, the Dutch and the Spaniards have sailed in advance, in company with or against, the pioneers of the British Empire overseas.

EARLY INVASIONS.

Previous to the period of European adventure the aboriginal Veddahs, who dwelt in the tropical forests which cover a wide area in Ceylon, were conquered in the sixth century B.C. by the Singhalese, emigrants from the Valley of the Ganges, who were themselves overthrown some 300 years later, by the Tamils from Southern India. For centuries the scales of power turned in favour of one or other of these races. Kings came and went; many died by assassination or in battle.

One, Kasyapa, murdered his father, the King, and then, fearing the vengeance of his brother who was collecting an army in India to dethrone him, he built the famous rock fortress of Sigiriya, a palace encompassed by walls—standing on a cliff with almost perpendicular sides some 500 ft. high—in which he held out against successive sieges for over seventeen years. This marvellous old pile has withstood the ravages of many centuries, and can now be reached as in the stirring days of old, by a ladder up the steep sides of the great rock.

Although in the fourteenth century the Emperor of China sent an expedition to Ceylon and took prisoners to Pekin the whole of the Royal Family, releasing only one whom he sent back as King, it was not until 1505 that the Western world turned its attention to this island in the Indian Ocean. The Portuguese were the first Europeans to establish a foothold in Ceylon. In 1518-20 the King of Cotla sanctioned the erection of a fort at Colombo, which they retained, like many of their Eastern possessions and trading posts, for nearly a century and a half, when they were driven



COLOMBO, CAPITAL OF CEYLON
General Post Office and Harbour Approach

Photo, Underwood

out by the Dutch, who had established themselves at Manaar.

A BRITISH CROWN COLONY.

The Dutch held Colombo and other places on the coast until 1796, when they, too, fell beneath the maritime power of Great Britain; and the captured settlements were annexed to the Madras Presidency. Some six years later Ceylon was raised to the position of a separate Colony of the British Crown; but there still remained the independent native kingdom of Kandy, situated in the centre of the island.

Even now the charge is occasionally brought forward by a few who do not take the trouble to study the extension of Anglo-Saxon administration, that Great Britain has been guilty of waging cruel war against almost unarmed natives to secure territorial and commercial advantages; whereas the truth is that seldom throughout the whole period of British colonial history has war been forced upon natives to subjugate them, or to further plans of annexation when the country was being ruled both wisely and well.

Many of England's colonies were taken from the Portuguese, Spanish, Dutch and Danes, in whose hands, or more probably in those of more powerful European nations, they would have remained if this country had not secured them for the extension of legitimate commerce, and guarded them from aggression and possibly oppression. Where a campaign has been undertaken against the natives themselves it has been in nearly every instance forced upon Great Britain; as witness the Burmese, the Ashantee, the Chinese, and many of the Indian and South African native wars, the Sudan Expeditions, and the operations to suppress the slave trade in many parts of Africa and on the Arabian coast. All of these were undertaken to punish continuous crimes against civilisation, to release British captives, or else to release from cruel oppression the people themselves.

Some, like the wars on our many frontiers, were engaged in to prevent raiding by lawless tribes outside the pale of the *Pax Britannica*, or else to secure strategic positions without which it would have been an almost impossible task to hold against the rising colonial powers of Europe that which England already possessed. Then there are others which were undertaken at the request of the people themselves, such as the operations against the Independent Kingdom of Kandy in Ceylon, which was occupied in 1815, owing to the atrocities committed by the King, Raja Singa.

With the annexation of the Kingdom of Kandy, which comprised a large portion of the interior, the whole island came under British administration, and its history becomes merged in the story of economic development and increasing agricultural, industrial and commercial prosperity. Up to the time of the great coffee failure in 1875—from which date the cultivation of that commodity has never properly recovered in any of the British colonies—the capital invested in the island was almost entirely devoted to these plantations, but, with indomitable energy, both money and labour were quickly diverted to the production of tea, cinchona, cocoa, cinnamon, rubber, tobacco, and various grains, with the result that the financial position was steadied and improved by the division of cultivation over many products, until it attained its present value.

In addition to the millions of pounds sterling profitably invested in Ceylon, over 10,000 British people find employment there; and Colombo Harbour is one of the most important ports-of-call and coaling stations, for both naval and mercantile purposes, on the ocean highway to Australia, New Zealand, Eastern India, Burma, Malaya, and the whole Far East. Attached to the Government of Ceylon is the Maldive Archipelago. The Sultan of these islands acknowledges his allegiance to Great Britain by sending an annual Embassy to Colombo.

THE ISLAND AND THE NATIVES.

Ceylon, which lies off the south-east coast of the Madras Presidency (see Indian Empire) is separated from the mainland of India by the Gulf of Manaar and the Paumban Channel, at which point, across the shallow intervening water, stretches the chain of coral reefs and islands known as Adam's Bridge. The island has a total area of 25,332 square miles, and a population of over 4,500,669 (census 1921). It is estimated that this number has since increased to just under 5,000,000.

A TEA GARDEN IN CEYLON

Photo, Underwood

Native pickers at work in the beautiful Nuwara Eliya Region

Although Ceylon is separated from the Indian peninsula only by a shallow channel, differences of the fauna and flora go far to disprove the belief sometimes expressed that this island was at one time joined to the mainland. As an instance of this, tigers, which are numerous in Southern India, are quite unknown in Ceylon, although elephants, buffaloes, elks, boars, and cheetahs, inhabit the thick jungles of this beautiful island, which has often been given the appellation of "Adam's Paradise."

Every portion of Ceylon lies within a few degrees of the Equator, and, consequently, the climate is decidedly tropical ; but the heat, which is most oppressive during the months of February, March, April, and May, is tempered, even on the plains of the coast, by the sea winds ; and the temperature seldom reaches so high a point as on the adjacent coast of Southern India. In the hill country, around Kandy, the old native capital, the rainfall averages about 120 in. annually, and on the plains of the coast about 40 in.

The vegetation is everywhere luxuriant. The forests yield ebony, rosewood, satinwood and other valuable timber, besides coco-nuts, peepuls, suryas, papau, sugarcane, and palms of various kinds, while bougainvillia, orchids and innumerable other flowers, as well as almost every description of tropical fruit, abound in this wonderfully fertile island.

The mountainous region of Ceylon lies to the east of Colombo, surrounding Nuwara Eliya, and it is here that the estates, famous for their tea, coffee, cocoa, cardamon, rubber, cinchona and cinnamon, are situated. The rainfall in this beautiful hill country is at times very heavy, amounting to over 200 in. in the year. The temperature ranges from 55° F. to 75° F., but the climate is healthy compared with that of the littoral. In one year the value of the products exported from this region amounted to 140,000,000 rupees.

At present about one-fifth of the whole island is under cultivation, and the areas devoted to the various crops are approximately : rice and other grains 800,000 acres, coco-nuts and areca-nuts 900,000, tea 450,000, cinnamon 25,000, rubber 40,000, tobacco 15,000, cocoa 35,000, and sugarcane, coffee and other products account for about 16,000 acres. The area available for future cultivation has been estimated at 1,500,000 acres, exclusive of the low-lying country forming the northern portion of the island, which, if irrigated, would be suitable for rubber, cotton or coco-nut plantations.

Although, financially, tea forms the most important agricultural product—over 120,000,000 pounds being annually exported—rice is the staple food of the large native population, and about 800,000 acres of land are devoted to the cultivation of this grain in its two forms, *padi* and dry. Rice, however, is mostly grown on the low-lying lands of the maritime provinces, where there is just sufficient moisture ; while the finest tea estates are situated in the hills around Kandy and the summer resort of Nuwara Eliya, where the climate is cool and bracing after the moist heat of Colombo and the littoral. Although Ceylon possesses little mineral wealth it is famous for its cats-eyes and other gems, and pearl fishing is carried on in the Gulf of Manaar ; but agriculture forms the chief industry.

POPULATION AND GOVERNMENT.

In Ceylon, as elsewhere in the east, the population consists of many nationalities speaking many tongues, although here there are not the congeries of Asiatic races that are to be found in many of the frontier towns and great ports of India. The predominating native races are the Singhalese, who number about 2,500,000, and the Tamils, of whom there are about 1,000,000, the remainder being made up of Moormen (Mohammedans), Burghers (Eurasians), Malays, and the Veddahs, or aborigines, who dwell in the jungles. The Buddhist faith has the largest following, although there are several hundred thousand native Christians, Mohammedans and Hindus. The natives of Ceylon, unlike those of Burma and Malaya, are active and industrious, and, although a very large portion of the crops of rice and other grains cultivated by the natives is used for home consumption, the exports of native produce average in annual value about 70,000,000 rupees.

Being a Crown Colony this island is ruled by a governor, who is assisted by a council of nine for administrative work, and by a council of forty-nine for legislative purposes.

KANDY, THE OLD CAPITAL OF THE ISLAND

A typical street scene

Photo, Underwood

The unofficial members of the latter include a European representing general interests, a planting member, a representative of the Chamber of Commerce, a Burgher, a Singhalese, a Mohammedan, a Kandyan and a Tamil member, as well as elected representatives from the different territorial divisions of the island, who adequately represent all races and interests. There are, on the Legislative Council, 34 elected members. Ceylon, for administrative purposes, is divided into nine provinces, each of which is in the charge of a government agent. The few large towns have municipalities, or local boards, while the native villages retain their own tribunals for matters of minor importance.

HARBOURS.

Ceylon possesses three good harbours, Colombo, Trincomalie and Galle ; but the only inland town of importance is Kandy, although there are several health and pleasure resorts in the hills, of which Nuwara Eliya is the favourite.

Trincomalie, on the north-east coast, possesses one of the best natural harbours in the world, and was at one time the headquarters of the British East Indian Squadron, but was abandoned as a naval base on account of the superior advantages offered by Singapore. It has more than once been proposed to construct a railway over Adam's Bridge, and so connect the lines of Southern India, at Trincomalie, with the 896 miles of railway lines in Ceylon.

If this project is successfully carried out, Trincomalie, which is the only natural harbour of importance on the west coast of the Bay of Bengal, south of Calcutta, will become an important centre for the oversea trade between Ceylon, Southern India and the East. It is difficult to understand why such a fine natural harbour in an important strategic position should have been entirely forsaken ; but, apart from questions of naval policy, it would be beneficial to both India and Ceylon if their railway systems were joined at Trincomalie, which would then regain much of the prosperity it has lost. Galle is another neglected port which needs only a modest outlay of capital to restore to the prosperity of ancient times, when it was the great emporium for the merchandise of both East and West.

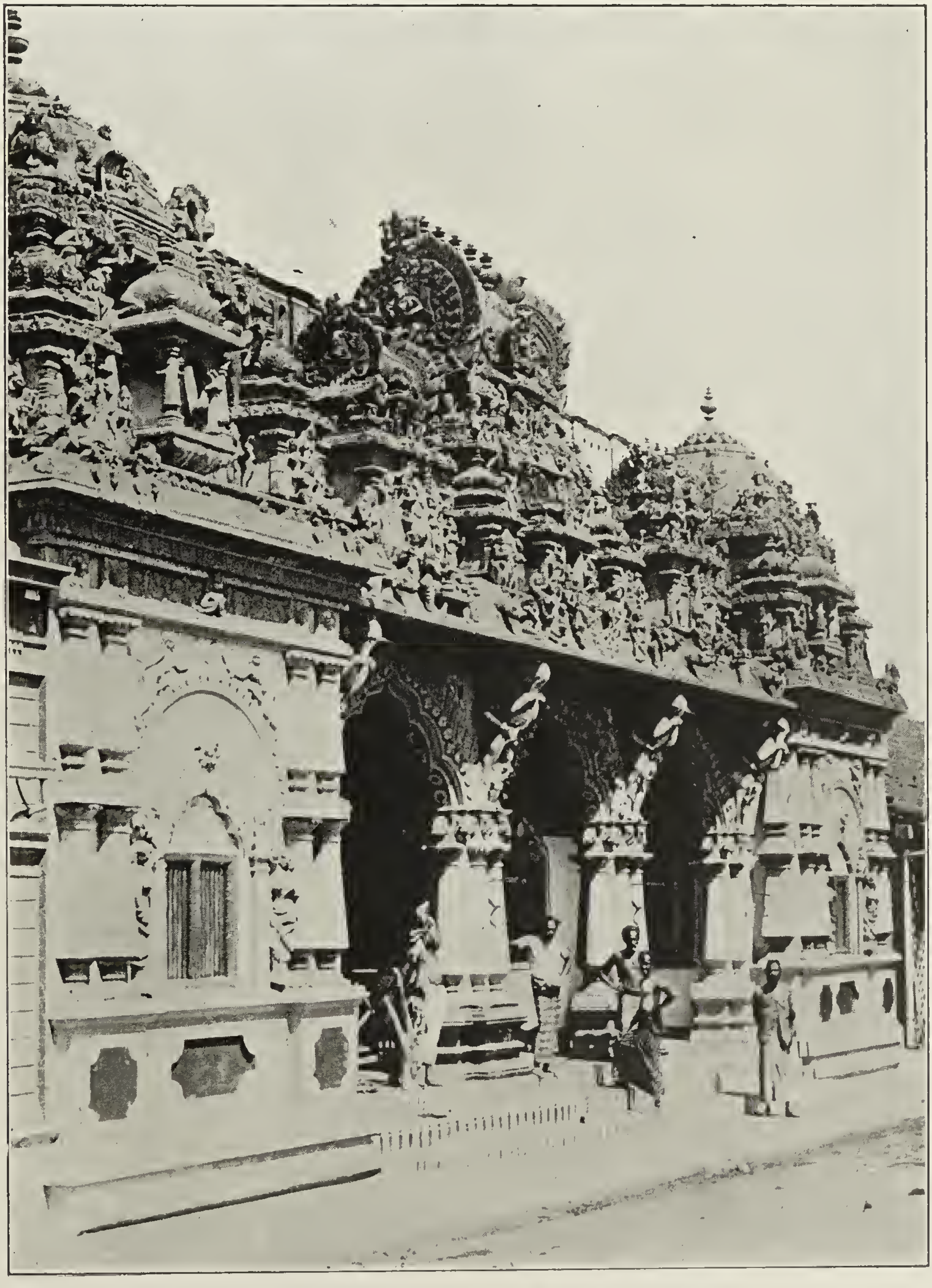
COLOMBO.

On this large town and seaport is focussed the political, maritime, commercial and social activity of the whole island. It is the capital, and here are the headquarters of the Government, the busy artificial harbour enclosing over 600 acres, which monopolises the bulk of the foreign trade, the largest European colony, the best clubs, hotels and other buildings, and the terminus of the railway system. Unfortunately, however, it has a humid climate which makes it necessary for residents to go annually to the hills, where the cool breezes and drier atmosphere soon dispel the feeling of ennui which gradually takes possessions of European residents in Colombo, or revive the sufferer from malaria contracted in the damp jungles of the coast.

Colombo, which has a population of about 250,000, owes its position, as the premier sea-port in Ceylon, and one of the chief ports-of-call on the ocean route to the East, to the engineering skill of Sir John Coode, who built the original breakwater enclosing the artificial harbour. It was commenced in 1875, when the Prince of Wales (His Majesty King Edward VII) laid the first stone, and was completed in 1884, since then, however, two additional breakwaters have been constructed at a total cost of several millions sterling.

Colombo Harbour presents a busy scene at all times. It is nearly always crowded with vessels landing passengers and cargo by tender, or else alongside the quays ; but, unlike Calcutta, Rangoon, Hong-Kong, Shanghai, and other ports having a large river as well as overseas commerce, Colombo is essentially a port-of-call and coaling station on the ocean route. This accounts for the predominance of large steamships over smaller craft ; and scarcely a day passes without the arrival or departure of several liners on their way to or from Europe, the Far East, or the Antipodes. Colombo may be termed the " Clapham Junction " for the ocean traffic of these southern seas.

Amusing and picturesque from the moment of landing are many of the sights in the capital of Ceylon. First there are weird



AN ELABORATELY CARVED TEMPLE AT COLOMBO *Photo, Underwood* cries, and still more weird acrobatic feats of the natives in their curiously shaped catamarans, and the shouting and splashing of the black Tamil boatmen eager to take passengers ashore ; then, after passing through the customs, one's attention is arrested by the plaintive voices of little fat, brown urchins reciting continuously, " Me no fader, me no mudder, me poor little orphan boy," which, by the way, is seldom true, although it *has* the desired effect. Then one plunges into Chatham Street, Queen Street, or other thoroughfare of Colombo, and is met by a stream of Asiatic humanity which it would take an ethnologist correctly to sort out ; but the Singhalese, slender and brown-skinned, with hair coiled in a knot fastened with a comb, and wearing a kind of white skirt, are at once noticeable on account of the difficulty of distinguishing at the first glance whether they are men or women.

Although here as elsewhere, " East is East, and West is West, and never the twain shall meet," there is, in addition to the native quarters, a fine European town, which possesses all that goes to make up a thoroughly modern city of England in the East. This portion has for its fashionable promenades the Public Gardens, facing the Government offices ; the " Galle Face Drive," and the Park.

There are also the aristocratic " Cinnamon Gardens," where, nestling among a wild, tangled mass of palms, plantains and feathery bamboos, are the white bungalows of Grecian design, occupied by the *elite* of Colombo. Many of the spotless white residences in these gardens overlook the palm-fringed lake, which allows a much needed cool breeze to stir the chaos of tropical foliage, fruit and flowers in the grounds, and filter through the closed jalousies. These bungalows have large square porticos, and are surrounded by broad verandahs, screened by columbine, begonia and numerous creepers. Bathed in golden sunshine, they appear almost immersed in a gently waving sea of rich green vegetation and bright coloured flowers.

When the sun is directly overhead, the jalousies of these bungalows are closed against the heat and glare, and all is silence except for the loud buzz and hum of myriads of insects busy among the foliage.

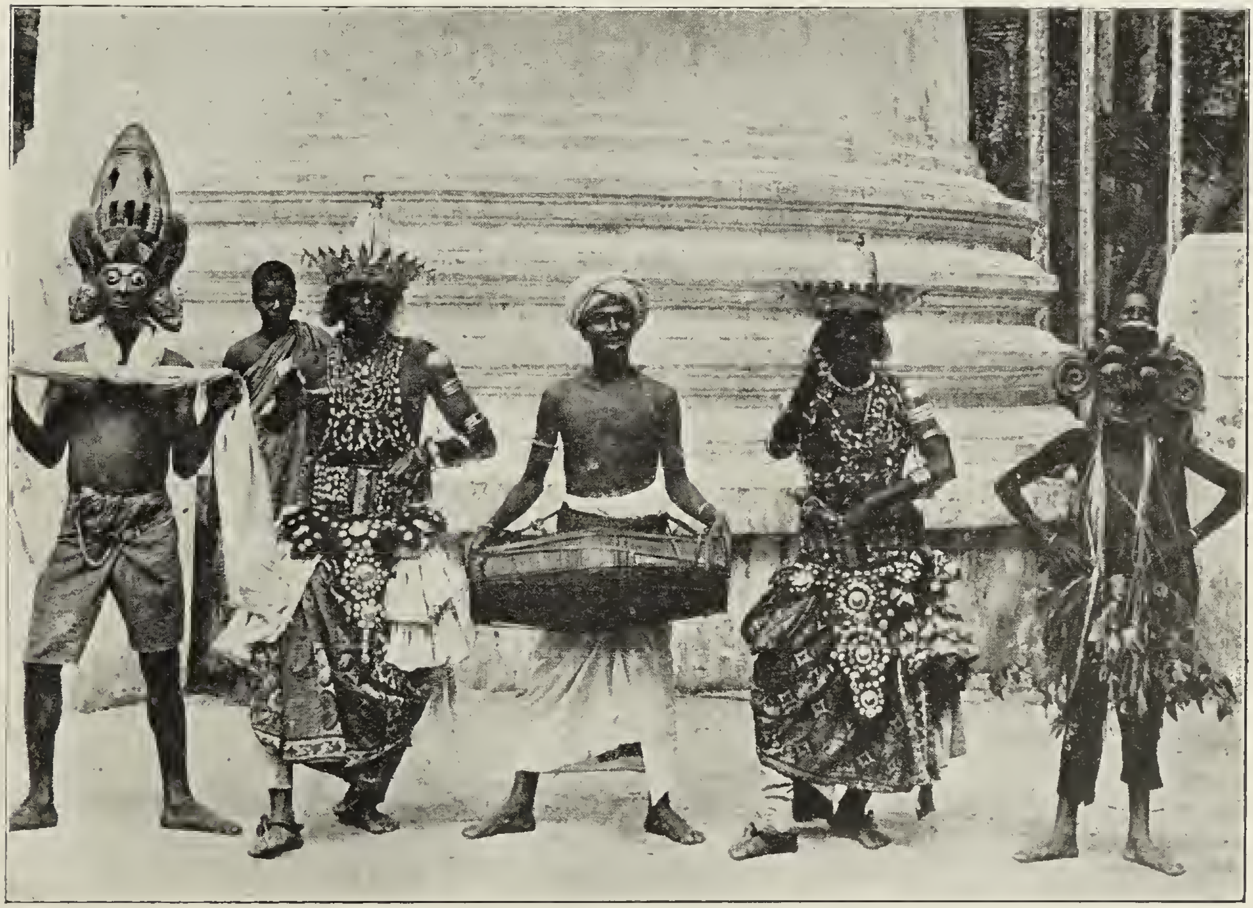
The environs of Colombo are perfectly Arcadian. A maze of roads and paths leads through dense clumps of pale green bamboos, broad-leaved plantains and areca palms, past lakes and pools shining like burnished gold when the sun gleams through the leafy roofs, to native villages of mud huts with a sprinkling of more pretentious buildings. There is, however, a dampness in the air, and a filmy veil hangs over the distance. A feeling of ennui steals over the white man as he lies back in the rickshaw wondering how the " boy," smiling through streams of perspiration, can possibly keep going in such a Turkish-bath-like atmosphere.

There is, however, the drive past the site of the Boer prisoners' camp during the South African War, to Mount Lavinia, some few miles from Colombo, where, after inspecting the Buddhist temple, with its usual sacred relics, one may sit on the verandah of the fine hotel, and, basking in the tepid breeze of the Indian Ocean, recall to mind the busy cornfields of Canada, the desolate ice-capped mountains of the Himalayas, the gaunt blue gums on the plains of Australia, the breezy sheep-dappled mountain sides of New Zealand, the wind-swept coasts of Labrador, the mist-enveloped Peak of Hong-Kong, and the dusty veld of the Great Karoo, over all of which the same flag flies—and then the Empire's splendid work on the Nile,—but further reverie is cut short by a slight shiver ; the sun has disappeared beneath the horizon, and darkness is rolling up from the East.

THE HIGHLANDS.

There are numerous white residents who have lived for years in Ceylon, and yet know practically nothing of the natural beauties of the more remote parts of the island. Many only leave their bungalows and estates for a short visit to Colombo or the health resort of Nuwara Eliya. The most prominent topographical feature in Ceylon is Adam's Peak, which was for many years presumed to be the loftiest mountain in the island, but careful surveys proved that three other mountains are many feet higher. These are Pidaru Talgala (8,295 ft.), Kirigulpota (7,836 ft.), and Tolapelakanda, which is 7,746 ft. above sea-level, whereas Adam's Peak is only 7,352 ft. in height, but stands out more prominently than all others, and is surrounded by beautiful wooded hills and tea gardens. It is a landmark which can be seen from the sea when the island is but a hazy cloud, with outline undefined against the hot, vaporous blue of the sky.

Adam's Peak does not, however, rely upon its height, or on the natural beauty of its surroundings, for its fame and attractions. Near the summit is a hollow in the crowning rock, resembling a *footprint*, and this, which is sacred ground to all who profess one of the three great religions of the East, is the resort of pilgrims from far and wide. The Buddhists maintain that it is the *footprint of Buddha*, the Brahmans of *Siva*, and the Mohammedans of *Adam*. The footprint is jealously guarded by Buddhists priests from the monastery on the mountain side, and the shrine on the summit is visited yearly by hundreds of pilgrims from all parts of the East.



DEVIL DANCERS AT THE TEMPLE OF THE TOOTH *Photo, Underwood*

The dancers are wearing weird masks and are playing crude musical instruments. In the background is the Temple of the Tooth

The journey up from the coast to the beautiful mountain district of Nuwara Eliya, which was originally chosen as the site of a colonising undertaking by Sir Samuel Baker, the famous African explorer and discoverer of the Albert Nyanza, is one of never-ceasing interest and beauty.

Nuwara Eliya is situated on a plateau 6,210 ft. above sea-level, and is surrounded by some of the most beautiful sylvan and mountain scenery in Ceylon. The hotels, clubs and summer bungalows border a lake, and near by is Pidaru Talgala, the most lofty peak in the island. It is comparatively an easy ascent to the summmit of this mountain, from whence a splendid bird's-eye view is obtained of the surrounding sunlit, verdure-clad hills, and the finest tea planting district in Ceylon.

There is a certain similarity between the beautiful highlands of Ceylon and the Blue Mountains of Jamaica—the "Jewel of the British West Indies." The refreshing change in the atmosphere from the moist heat on the coast, which imparts a feeling of ennui, to the cool dry breezes and hot sun in the mountains, which invigorate, is present in peculiar force in the premier island of both the East and West Indies.

KANDY.

After a journey from Colombo of about 74 miles, through some exquisite tropical scenery, the ancient capital of the Kings of Ceylon appears in its setting of hills. The town itself consists of a bizarre collection of modern hotels, Anglo-Indian bungalows, antique temples, palaces and native huts, surrounding in scattered formation a pretty, foliage-bordered lake, situated in the midst of the famous tea, cocoa, and cardamon plantations. It is a favourite hot-weather resort of Europeans in Ceylon. Kandy has, however, its own white population, chiefly planters, who dwell, even during the wet season, in the town itself or in the adjacent districts.

Tea cultivation does not allow the planter or his assistants the same long periods of leisure as the cultivation of coffee. A tea garden must be picked over about every ten days throughout the year, and the after-process of withering, drying and rolling, which call for the exercise of considerable scientific knowledge in order to retain the "bouquet," need constant supervision and leave little time for "long vacations"; but it is a fine life, that of a planter on the sunlit hills of Ceylon, somewhat quiet, maybe, but it combines the general refinement of Anglo-Indian life with the sense of open air freedom in a paradise of nature.

One of the most interesting places in Kandy is the "Temple of the Tooth," a stone pagoda with frescoes illustrating the tortures awaiting those who hearken not to the teachings of Buddhism; and in this temple is a gold casket studded with magnificent gems containing what is, perhaps, the most sacred relic of this wide-spread religion, a piece of ivory revered as *Buddha's Tooth*. Once a year there starts from this most sacred edifice the great festival of the Singhalese, called the *Perehera* which takes place on four consecutive nights, and includes, besides shouting and the blowing of horns, which act as the accompaniment to nearly all native festivities, processions of saffron-robed priests, richly caparisoned elephants, and grotesque figures whose "make up" is quite undecipherable, even in the brilliant moonlight and the glimmer of many lanterns. This religious festival, which takes place during the season, is usually witnessed by many Europeans.

Around Kandy there are many other pagodas, embowered in flowering shrubs and trees, but none are equal either in sanctity or interest, to the Temple of the Tooth. At Peredeniya, some little distance from the town, are the famous Botanical Gardens, where a staff of Government experts are either constantly engaged at the experimental station or else visiting one or other of the numerous plantations and advising as to the best means of destroying insect pests, or of obtaining the most favourable results from the trees and crops. There is also an Agricultural Association, with a large number of members, whose *Transactions*, when of interest or benefit to small native cultivators, are printed in Singhalese and Tamil.

The capture and taming of wild elephants forms an industry in Ceylon. A cordon of beaters encircle a herd and gradually heads it towards a strongly built "corral," into which the beasts are slowly driven. Tame elephants driven by their mahouts then enter the enclosure, and the "refractories" are fixed by the leg to a tree. It seldom happens that the mahouts are injured by the frightened beasts. A period of starvation soon reduces them to docility, after which they are released from the enclosure and patiently trained, until they themselves take a keen interest and assist in the capture of their wild comrades in the jungles.

Ceylon being an island, which has for many years been wholly under British rule, the administrative problems are mostly of a financial, judicial, and political character, rather than diplomatic. Great advances have been made during recent years in railway construction, and there are now in operation over 778 miles of 5 ft. 6 in. gauge line and 117 miles of 2 ft. 6 in. gauge, which, besides paying the interest and sinking fund on the debt incurred, yields a considerable revenue to the exchequer of the colony.

Here, as elsewhere in the East, agitators have been active, causing a certain discontent among the population which has made itself manifest in the Legislative Council in the form of a demand for a greater measure of self-government.

The labour question is also of importance to all engaged in agriculture. There is no dearth of willing labour, although close supervision is often needed to obtain constant results, as several thousand coolies arrive annually from Southern India, and after a brief detention are allowed to proceed to the engaging plantations. Medical assistance is provided in all parts of the island, and medicines can be obtained at the dispensaries at a very low price. More coolies arrive annually from Southern India than return to it, many preferring the happy life on the plantations and the regular employment offered in this highly cultivated and exceedingly prosperous island.

THE MALDIVE ARCHIPELAGO.

This group of islands, which forms a dependency of Ceylon, lies almost on the Equator, in a south-westerly direction from the British colony, and possesses a very hot and unhealthy climate. Their oversea commerce is very small, the chief exports being coco-nuts, coco-nut coir, tortoise-shell, dried fish and shells. The chief island is Maule, which is the headquarters of the native Sultan, who annually sends an Embassy to Colombo to acknowledge his allegiance. It is about 400 miles distant from Colombo. The population, which numbers only a few thousand—many of the islands being uninhabited—is mostly Mohammedan.

CHINA

BRITISH POSSESSIONS AND INTERESTS

HONG-KONG, WEI-HAI-WEI, SHANGHAI

THE very complicated interests of the Empire in and around China may be divided into three sections—colonies; commercial concessions; and spheres of interest. Under the first of these headings comes the important little Crown Colony, naval station and mercantile port of Hong-Kong Island, at the mouth of the Canton River, its adjacent mainland territory in the Kwangtung Province and also on the Kowloon Peninsula, which has an area of about 395 square miles, and a population of about 1,000,000. There is also the territory of Wei-hai-wei, consisting of the Island of Liu Kung and the other little islands in the Bay of Wei-hai-wei, together with a strip of country 10 miles broad along the whole coast line of the bay in the Province of Shantung, which forms the British naval station in North China, and has a total area of 285 square miles, with a population of about 183,000. (In addition to the leased territory there is a "Zone" having an area of about 1,500 square miles).

Under the second heading, Commercial Concessions, comes, first, the British section of the thriving city and port of Shanghai; then the concessions in the "Treaty Ports"—these interests are commercial, and may be defined as rights of residence and trade, and will be described later. Third, there is the British sphere of interest, admitted by the Chinese Government in 1898, in the valley of the Yang-tsze-Kiang—this may be termed a right of pre-emption over other foreign countries owing to pre-eminence of commerce.

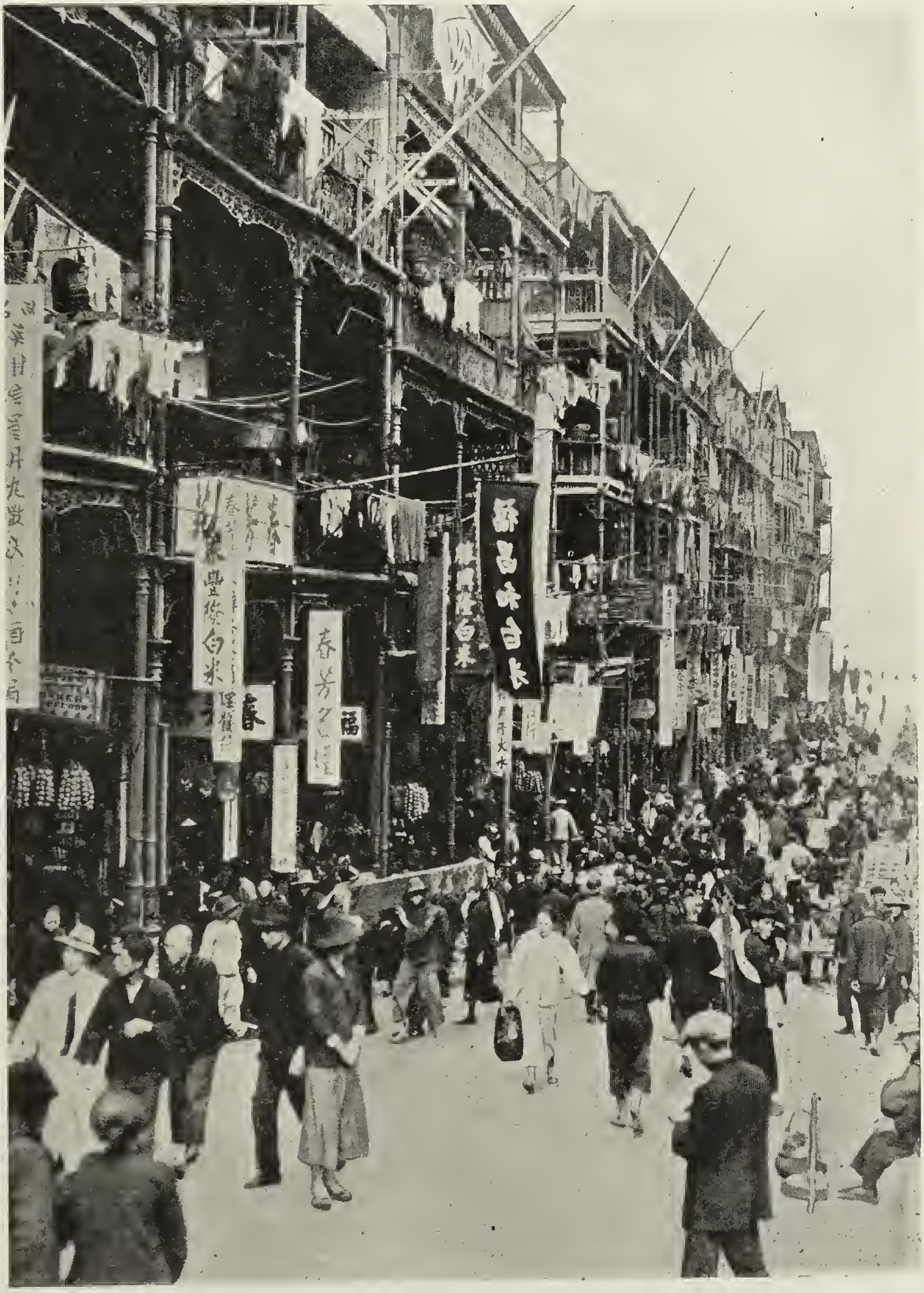
These complicated "rights" are made even more intricate by the necessary division of administration, especially so far as it relates to the execution of the law, in the Treaty ports, or foreign trade and residential districts. These questions will, however, all be fully treated under their respective headings.

HISTORY.

Although Marco Polo, the Venetian adventurer, resided for some time in Cambaluc (Pekin) in the thirteenth century, was employed by Kublai Khan, the Mongol Emperor, as adviser, and attempts were made by the English to establish commercial relations with the Chinese Empire in the reign of Queen Elizabeth, and again some years later, it was not until the British East India Company sent trading vessels to Canton, in 1664, that intercourse may be said to have begun.

This great Company, which was responsible for the early development of India, the acquisition of Singapore, Penang, and Malacca, as well as the commercial development of the Malay Archipelago, must also receive the praise for being the first to open the magnificent markets of China to the commercial enterprise of Great Britain.

For over a century vessels of the East India Company maintained a fairly regular connection between Bengal and Canton, which was then, and is now, one of the great commercial centres of Southern China. Dutch and Portuguese merchantmen also traded with this port; but, previously to the enterprise



STREET SCENE IN HONG-KONG

Photo, C.P. Rly.

of the East India Company, China had, for all practical purposes, remained outside the pale of European intercourse. It was therefore the initiative of this Company, and afterwards of the British Government, that first raised, before the eager eyes of the commercial west, the mysterious veil of isolation with which China had successfully surrounded herself since the dawn of history.

Rapid from the first was the growth of British commerce with the Chinese Empire. The East India Company established "factories," or trading depôts, at Canton during the latter part of the eighteenth century; and in 1836–40 the importance of these almost unlimited markets to the greatest manufacturing Empire in the world began to dawn on the British Government. Measures were quickly taken to bring under direct Imperial control the diplomatic and consular relations with China.

The withdrawal of the monopoly from the British East India Company in 1833 (see *History*, Indian Empire) placed the British merchants in Canton in a curiously undefended and isolated position, which was immediately taken advantage of by the Chinese Government. When strong representations were made to the Emperor at Pekin, they were met by a blank refusal to treat with Great Britain on terms of equality, this, with the arbitrary restrictions placed in the way of British trade, was the primary cause of England's first war with China in 1840. The success of this campaign caused the signing of the Treaty of Nanking, by which the island of Hong-Kong was ceded to Great Britain and five of the "Treaty Ports" were opened to foreign residence and commerce.

OCCUPATION OF HONG-KONG.

The island of Hong-Kong, which has been transformed from an almost uninhabited rock to a flourishing town and suburbs with over 500,000 population, possesses the most important commercial port and British naval station in the Far East. It was first occupied by British merchants, who left the factories they had established at Canton, after the oppression of the Chinese authorities which culminated in the forcible destruction of the 20,000 chests of opium by the Chinese Imperial Commissioner Lin, who spared no efforts to annoy and actually insult the foreign residents in that town. After attempting to settle again in the Portuguese Colony of Macao, from which Lin drove them by threatening the authorities, they landed at Hong-Kong, which was finally ceded to Great Britain by the Treaty of Nanking, signed in 1842, and proclaimed a free port, which it has remained ever since, becoming a Crown Colony in 1843.

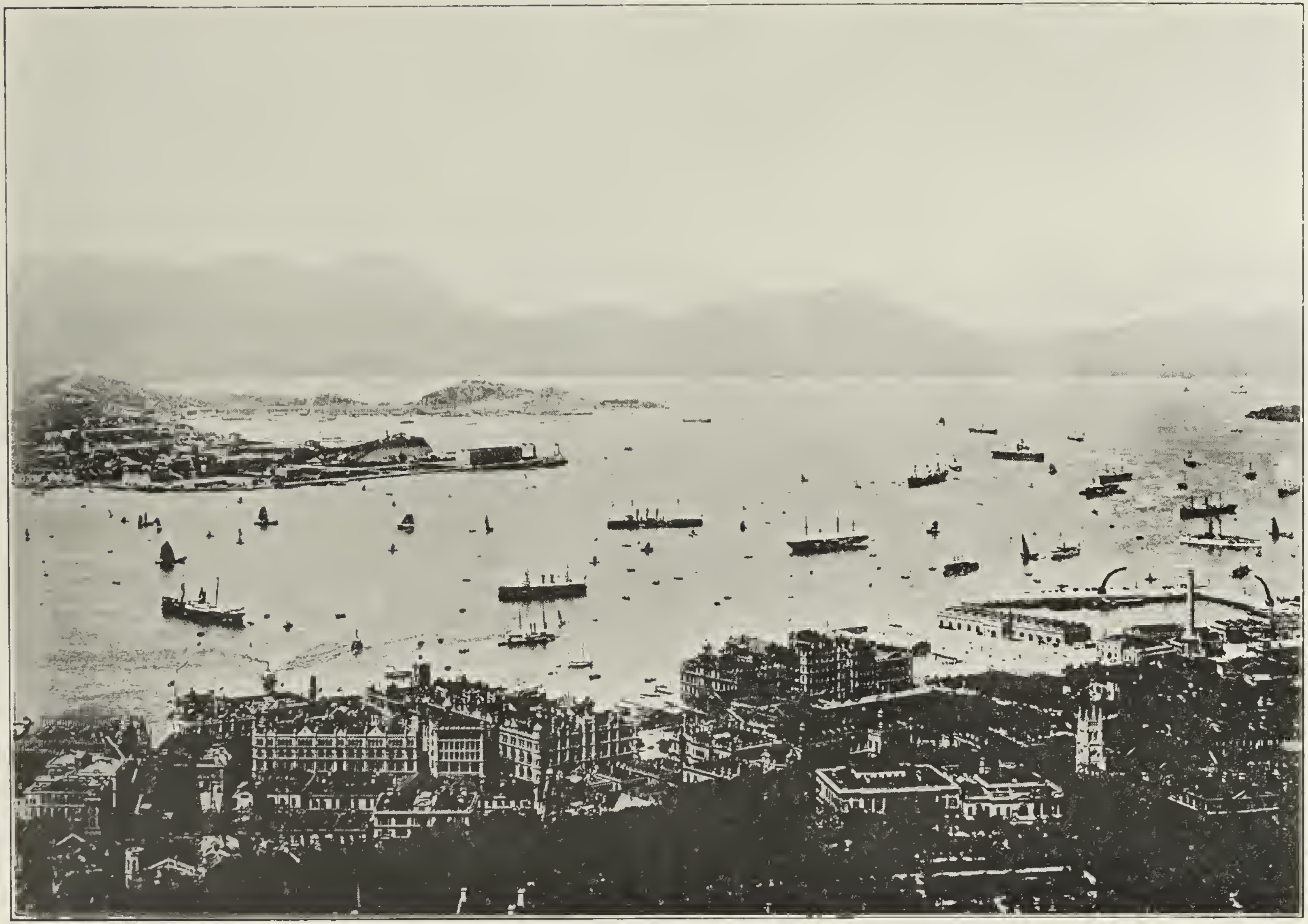
The continuance of the policy of obstruction to European commerce, supplemented every now and then by some act of absolute oppression or violence, created great discontent among the European mercantile community; and the capture of the *Arrow*, a British trading vessel, by the Chinese authorities again caused an outbreak of hostilities. France and Great Britain both despatched troops to this, the second China war, which, after some sharp fighting, including the taking of Canton, resulted in the signing of the Treaty of Tientsin, in 1858.

This Treaty was, however, not ratified until after the British and French forces had captured the Taku Forts, forced the passage of the Peiho River, and occupied Pekin; when, by the Pekin Convention of 1860, the Treaty of Tientsin was confirmed and the *Kowloon Peninsula*, opposite to Hong-Kong, was ceded to Great Britain. In addition to this several more ports were opened to foreign commerce, and provision was made for the establishment of Foreign Legations in Pekin.

THE RUSSIAN ADVANCE.

At this point it becomes necessary to place in review order some of the foreign political events in the modern history of the Far East, in order that subsequent British actions may be fully understood. In 1858–9 Russia *crossed the Rubicon* by entering the territory of the Amur on the Chinese frontier under the terms contained in the well-known Muravieff Treaty; slowly the advance southwards was continued, no weak policy hindered the extension of the Empire of the Czar, even Polish-Jews, although despised in Russia, were engaged for their astuteness to deal with the mandarins of Manchuria and pave the way for a further advance.

The coast to Vladivostock was acquired by the frontier treaty (Primorok-Varsuri) of 1860; and Russian diplomacy at Tokio secured for her the island of Sakhalin in 1875, the southern portion of this island



HONG-KONG HARBOUR

Photo, C.P. Rly.

being retaken by Japan after the war of 1905. Not satisfied with these already large acquisitions of territory, an onward march towards Pekin itself was steadily pursued; by the convention of 1896 Manchuria, the long-sought-for goal, came under Russian influence; and hasty arrangements were made for securing this sphere for the purpose of complete annexation. The Trans-Siberian Railway was pushed forward to Mukden, Nieu-chwang and then Port Arthur, which commands the entrance to the Gulf of Pechili, and forms the gateway to Pekin and North China. From 1858 to the occupation and fortification of Port Arthur in 1898, the frontier of Asiatic Russia in the Far East had been extended southward no less than 800 miles, and was within 200 miles of Pekin.

This, the first stage, successfully accomplished, Russia turned her attention to the Korean Peninsula, the occupation of which would have brought her to the shores of the Straits of Korea, and in very close proximity to Japan.

In fairness it must be said that, although from a British and Japanese point of view this great extension of Russian dominion and influence naturally caused considerable apprehension, and was a sufficient motive for the strong and plucky measures afterwards taken by Japan alone to stop further annexation of Chinese territory and the closing of the "open door," it did not necessarily, in itself, constitute any antagonistic feeling of Russia against Great Britain, but was rather the natural outcome of the Russian policy of expansion. The activity in Korea was Russia's great error, for Japan had been watching with alarm the steady advance from the Amur, which was placing a great European Power at her very doors, and, although there were contributory sources, the extension of Russian influence in the Korean Peninsula was the *casus belli* of the war of 1905.

The victory of Japan stopped the Russian advance, and a treaty was entered into between Japan and China by which the latter undertook not only to accept the transfer of Manchurian territory made by Russia to Japan, but also to open fifteen towns in Chinese Manchuria to foreign residence and commerce. Thus another large addition was made to what is known as the treaty ports.

THE ACQUISITION OF WEI-HAI-WEI.

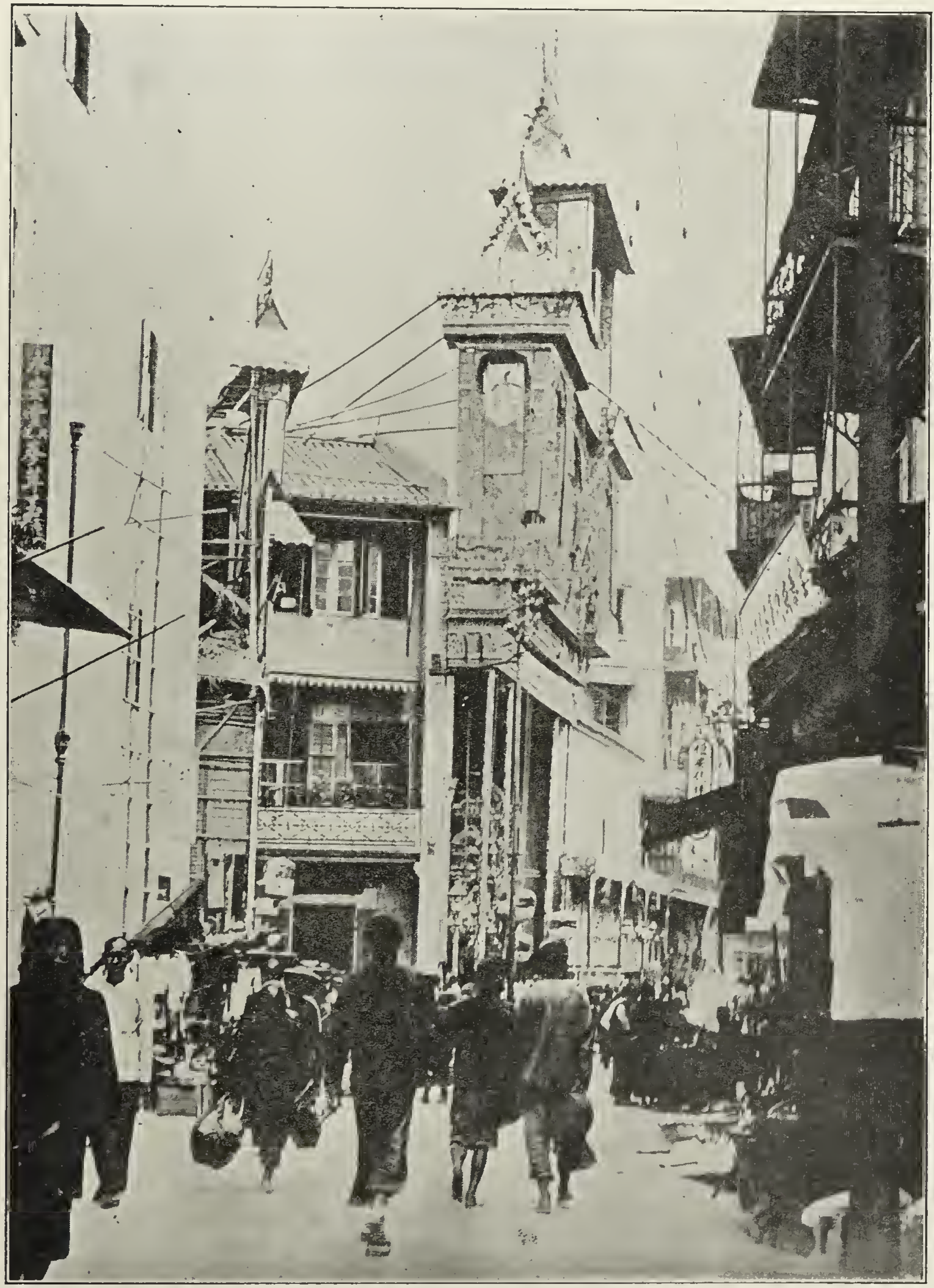
To revert to Chinese history, the suzerainty over Upper Burma was ceded to Great Britain in 1885, and about this time Tongkin became French territory. The loss of Formosa, and the conversion of Korea, first into an independent kingdom (and later, 1910, into a Japanese colony) was caused by the defeat in the war with Japan in 1894. The murder of some missionaries caused the German Government to occupy Kiao-chao Bay in 1897.

All this time the Russian advance had continued unchecked, until the final occupation and fortification of Port Arthur in 1898. It will thus be seen that when Great Britain leased from China the territory of Wei-hai-wei, for the purposes of establishing a fortified naval base in North China, almost opposite to the Russian base at Port Arthur, it was with the object of strengthening her strategic position in the Far East, in order to be in a position to prevent the further occupation of Chinese territory by foreign Powers, which meant the closing of the rich and populous areas so occupied to international commerce, and was opposed to the policy known as the "open door" in China, adhered to by nearly all the great European powers, as well as Japan and the United States.

The occupation of Wei-hai-wei, under lease from the Chinese Government, was carried out in 1898, at the same time as the Russian occupation and fortification of the adjacent Port Arthur.

In 1897 Germany seized Kiao-Chao, on the east coast of the Province of Shantung. The town, harbour and district, having an area of about 200 square miles, was transferred by treaty to Germany, on a 99 years' lease, in March, 1898, and was proclaimed a German Protectorate in April of the same year. There were a number of small Chinese towns and about 193,000 inhabitants in the Protectorate, which was surrounded by a "Neutral Zone" of 2,500 square miles with over a million population. This zone was earmarked for German expansion. Kiao-Chao soon became a strongly fortified German Naval Station, and was administered by the Navy Department. The capital was Tsing-tau.

From these few facts, extracted from the long and complicated diplomatic history of foreign intervention and acquisition in China,



QUEEN'S ROAD, HONG-KONG *Photo, C.P. Rly.*

it will be apparent that both Russia and Germany were anticipating the "Partition of China," and the consequent closing of large and thickly populated areas to British trade. In this chess-like game England—against her own policy of the "open door"—was forced to play a leading part or else permit rich and legitimate markets, upon which many thousands of workers in the British Isles depended for their living, to be closed in her face by less scrupulous commercial rivals.

The Japanese Government asked for the surrender of Kiao-Chao, as a menace to the safety of Japan, in August, 1914, but, as no reply was received from the German Government, Japan entered the Great War on August 23rd, and four days later commenced the blockade of Tsing-tau, the fortified base, which was finally taken by Anglo-Japanese forces in November, 1914, and was administered by Japan as the Mandatory Power. Kiao-Chao has, however, since been returned to China.

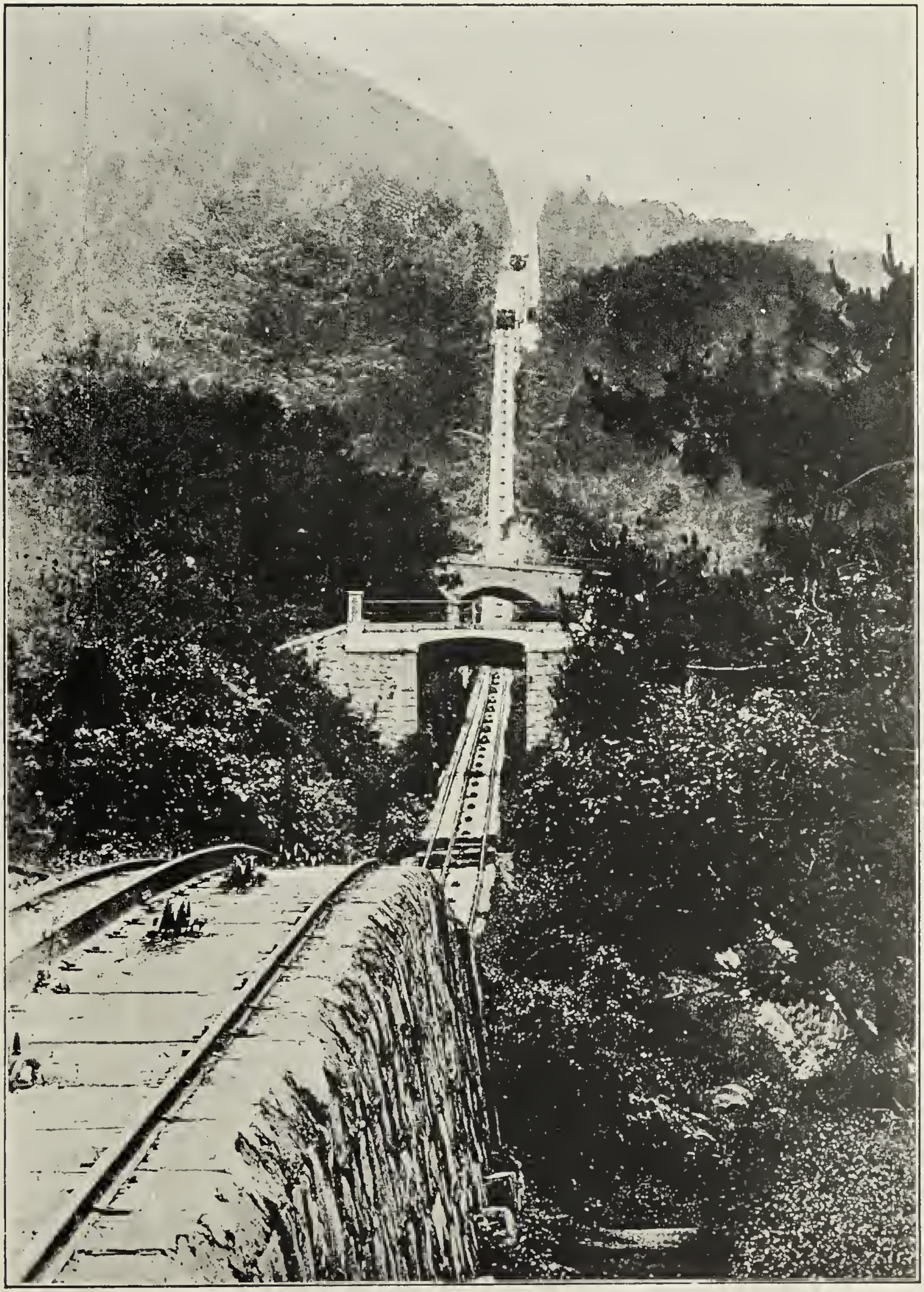
SIEGE OF THE FOREIGN LEGATIONS.

Reverting once more to Chinese history, one of those curious yet fierce and far-reaching waves of popular hatred of the foreigner, which ever and anon pass like a thunder-cloud over large areas of China, broke out about this time in Pekin, and swept over a wide region of the country. It was fostered by the Dowager Empress, who had assumed the government after the unsuccessful attempt made by the Emperor to introduce administrative changes in 1898. The smouldering fires of hatred were fanned into flame, and the populace rose and besieged the Legations in Pekin and the foreign quarter of Tientsin, in 1900. This attack on foreign residents continued for several weeks unchecked by the Chinese Government; but an allied army, despatched by the Treaty Powers, relieved the besieged residents and occupied Pekin. The flight of the Imperial Court delayed somewhat the signing of the Peace Protocol, which provided for the payment of an indemnity of 65 millions sterling, spread over a period of thirty-nine years, and the opening of several more ports to foreign residence and trade. A further commercial treaty between Great Britain and China was signed in 1902.

THE REVOLUTION AND ITS AFTERMATH.

In 1911 occurred the revolution which finally destroyed the monarchy and plunged the whole country into civil war and chaos, which has lasted up to the present time. At first the able and victorious General Yuan Shih Kai succeeded in maintaining a semblance of order, but after his death in 1916, various "War Lords" arose, and for several years fought among themselves for supreme power in China. Presidential elections have been held, but their results disputed by force of arms. Parliaments have been assembled, but their decisions have not been carried out. In 1925 Great Britain, in conjunction with the other important Powers, conferred with China regarding the tariff question—the Chinese Maritime Customs form the basis for the security of both the capital and interest of the various foreign loans to China. The power of the Pekin Government was, however, too limited for the decisions and agreements then made to be carried into effect in the provinces.

In 1925-7 anti-foreign outbreaks occurred in many of the Treaty Ports. A revolutionary army approached the International Settlement at Shanghai, and it became vitally necessary to despatch both British and Indian troops for its defence. In addition to land forces, warships and a squadron of the Royal Air Force were engaged. The United States also co-operated and despatched troops to Pekin and Tientsin. Sporadic outbreaks occurred in 1928–30. In one case a section of the Chinese Maritime Customs was forcibly taken out of the hands of the International corps responsible. For many years the affairs of China have been in a state of peculiar complexity and chaos, seriously jeopardising foreign lives and commerce. In this connection it is interesting to note that a careful estimate places the number of foreigners resident in China at about 330,000, of whom 16,000 are of British nationality, and 10,000 are Americans. The number of foreign firms is just over 8,000, of which only 793 are of British ownership, 400 belong to Americans and over 4,000 to Japanese subjects. The total population of the International Settlement at Shanghai is 840,000, making it twenty-ninth, in point of size, among the cities of the world.



HONG-KONG, THE PEAK TRAMWAY *Photo, C.P. Rly.*

A FIELD FOR COMMERCIAL ENTERPRISE.

China, with its teeming population of over 450,000,000, its immense natural resources—more easily realised when it is remembered that the coal-fields alone have been estimated to contain enough of this product-of-power to supply the entire demand of the world for several thousand years—and its partial dependence upon the manufactured goods of Europe, which, allowing only £10 a year per head of the population, would absorb, when properly exploited, merchandise to the value of about £4,000 millions per annum, offers the richest field ever known for foreign commercial enterprise or monopoly. These facts must never be lost sight of when considering the complication of European interests which entwine the whole Far East. They form one of the primary causes of the international problems which, in various guises, almost continually overshadow European politics in the Far East.

THE OPEN DOOR.

From a British point of view, the essential of the much discussed " Far Eastern Question " may be summed up in a few words, although there are very many side issues of more or less importance. It is the maintenance of what is known as the " Open-door in China," which means the freedom and equality of all nations to participate to the utmost of their resources in the rising commerce of the Middle Kingdom. Lord Salisbury once said that, " Great Britain should never hasten the partition of China, nor guarantee its integrity against foreign aggression."

Out of the total foreign trade of China, which averages in annual value £300,000,000, the British Empire has, in open competition with all nations, succeeded in obtaining a share of 24 per cent. In the same way the average tonnage of foreign shipping entering and clearing annually at Chinese ports is 130 million tons, of which 43 million tons sail under the Red Ensign. The British capital invested in China falls but little short of 283 millions sterling. In addition to these huge investments, there are the interests of incalculable value established by many generations of British commercial pioneers in the Treaty Ports.

THE TREATY PORTS.

These ports supply the exact meaning of the policy of the " Open-door in China," for in them no exclusive privileges of trade are possessed by any single nation ; right of residence and freedom to engage in commerce are possessed by the subjects of all countries having commercial interests in China ; but several European nations have in the past been striving hard to obtain special advantages in certain provinces, hence the policy of " spheres of influence," which, previous to the great European War of 1914, was favoured by Russia and Germany, and was strongly opposed by Great Britain, Japan and the United States, on the ground that it was merely the first act in the partition of China among the Great Powers.

Added to the dangers of political friction if this division took place would be those of rebellion, which, once started—perhaps through misgovernment in one sphere—would spread like the wind over the whole country. These possibilities would necessitate the maintenance of an army of occupation in the protectorate of each country.

Against these deterring features must, however, be placed the absolute necessity for the British Empire to maintain her great commercial interests in China, which afford work for thousands in the manufacturing centres of the Homeland ; and it must be remembered that the " Balance of Jealousies," which has so long prevented any foreign nation from undertaking independent action to secure good government, freedom of trade, and security of life and property throughout China, is slowly giving place to a mutual understanding among the Powers supreme in the Far East.

Great Britain and Japan have united interests ; with France there is *l'entente cordiale* ; the growing influence of the United States in the China seas has produced interests identical with those of the British Empire. There are, however, still discordant voices in the Far, as well as the middle East, and in order to guard British interests in the highly important commercial field of China, should it be found impossible to maintain the admirable policy of the open door, the Imperial Government has several times defined the British sphere of interest,

THE BUND, SHANGHAI

Photo, C.P. Rly.

which is the whole valley of the Yang-tsze-Kiang. In February, 1898, the Tsung-li-Yamen, or Imperial Chinese Foreign Office, gave definite assurance that China would never, either by lease, mortgage, or other measure, alienate any of the territory of the provinces adjoining the Yang-tsze-Kiang to any other foreign Power.

It would be impossible to define exactly all the political, financial and commercial interests of England in China; but Lord Salisbury once said, in a letter to Sir William White, the British Ambassador at Constantinople—" The Power that can establish the best footing in China will have the best part of the trade of the world."*

HONG-KONG.

This small Crown Colony, which, politically, is an important naval and military base for the protection of British commerce in South China and on the ocean trade routes to the Far East, and, commercially, a wonderfully prosperous distributing and receiving depôt for merchandise, possesses a fine, busy harbour, and is situated off the south-east coast of China, at the mouth of the Canton River.

It consists of the island of Hong-Kong, which has an area of about $30\frac{1}{2}$ square miles, and the adjacent mainland territory on the Kowloon Peninsula and in the Kwangtung Province. The total area of the colony is 395 square miles, and the population about 1,000,000, of whom, approximately 21,000 are Europeans, including the naval and military forces.

The climate, generally, is hot and extremely damp, especially during the hot season, which lasts from May to October. In the winter months, notably from November to March, the climate is much cooler and drier, and in the elevated Peak district, which is reserved for European residence, it is more invigorating. There is a fairly wide annual range of temperature. In February, the thermometer averages about 61°, and in August about 84°. In the months of the south-west monsoon, May to September, from 60 to 70 inches of rain usually fall, but scarcely 15 inches is recorded on the average during the remainder of the year.

Hong-Kong proper is a mountainous island, and along its northern shore stretches the town of Victoria, which is more often than not called by the name of the island upon which it stands. The harbour, without which Hong-Kong would be almost as useless as Kerguelen, lies between the mainland and the island, and is nearly always filled with shipping of all nationalities, and is encompassed by wharves, warehouses and docks. Between 16 and 20 million tons of shipping enters and clears annually—an amount surpassed by no other port in the Empire except London.

As a naval station it is strategically important, being the headquarters of the China Squadron, and conveniently situated on a land-locked harbour, at the mouth of the Canton River, one of the highways of commerce with the interior of China, and on the ocean route from Europe to the Far East. It possesses excellent dock accommodation and is well fortified. The acquisition of Wei-hai-wei, which partly dominates the entrance to the Gulf of Pechili, in North China, has, however, confined the naval responsibilities of Hong-Kong to South China and the ocean trade route.

The estimated value of the trade of Hong-Kong is 86 millions sterling per annum, made up of imports 45 millions and exports 41 millions. It is the clearing house for the foreign trade of South China, and its importance as a market for British manufactures will be understood when it is stated that the average annual value of the imports from the United Kingdom alone is approximately seven millions sterling; and the exports to the United Kingdom well under one million sterling. The imports from the Motherland consist principally of cottons, woollens, and machinery; while the chief exports are tea, silk and hemp. The revenue is just under £3,000,000 a year, the expenditure averages £2,800,000, and there is a public debt of about £2,000,000.

Hong-Kong island may be divided into four distinct portions, the maritime quarter of Victoria, which lies along the harbour front, the busy commercial thoroughfares immediately to the rear, the best residential portion amid the palm-walks on the slopes leading up to the Victoria Peak, which rises some 1,800 ft. and is crowned by the signal station, and the outlying hills of the island, many of which are dotted with summer

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* "Sir William White." By H. Sutherland.

SHANGHAI FROM THE RIVER *Photo, C.P. Rly.*

"THE WILLOW PATTERN"—SHANGHAI *Photo, C.P. Rly.*

bungalows. The forts mostly face the various approaches to the anchorage. On this island scarcely an acre of land is available, and the cost of living is very high.

A PAGODA, SHANGHAI *Photo, C.P. Rly.*

VICTORIA.

The capital of the little Colony of Hong-Kong is a bright, busy town of typically Anglo-Chinese appearance, with a population of about 500,000. The streets are gay with hooded rickshaws, chairs, wheel-barrows and Chinese coolies in their usual blue and white garments; then higher up, above the bustle and hum of the city, the mountain roads are prettily bordered with palms, tree-ferns and flowers; houses stand on the verge of dizzy precipices, overlooking the blue, ship-dotted waters.

Ascend by the tramway to the Peak summit, and gaze over the rugged mountains, in summer so often clothed in wet mist, which saturates everything, causing a green mould to form on boots, clothes, books, and, in fact, everything left for a single night undried. In the houses on the "Peak," which, as a residential district, includes all the hill-tops in the island, a drying room is a very necessary apartment, in which the mist-soaked garments, as well as household utensils, may speedily be dried; but the coolness of the air, the life-giving breezes, and the delightful views afforded on clear days, amply compensate for the occasional fogs. The south-west monsoon blows across Hong-Kong, and it is partly to the hills lying between this and the city of Victoria that the hot, damp climate is due.

The architecture of Victoria is of a somewhat mixed character, but there are many very fine buildings, and order reigns in consort with sanitation. More space is, however, urgently needed in Kowloon, as is also the case at Shanghai. The Chinese are fully alive to the benefits of living under the protection of the British flag, where they are free from the "squeezing" of Chinese officials who are compelled to accept bribes in order to recoup themselves for the large outlays they have been compelled to make to secure appointment. It is, therefore, not surprising to find that not only are the native portions of Hong-Kong and Shanghai frightfully overcrowded, but much property is owned by wealthy Chinese merchants.

A curious feature of this colony is the bamboo customs wall, which divides the British portion of the mainland from China proper. Hong - Kong being a free port, smuggling has great inducements, and, to prevent any possibility of this, a high bamboo palisade has been erected to divide Britain from China, with a few well-guarded gates through which all traffic must pass on its way from and into the interior.

A demonstration of the frequently complicated nature of British interests in the Far East is afforded in the Kowloon territory, where a native town, although situated in the British sphere, is directly administered by Chinese officials (according to treaty).

The climate of Hong-Kong is hot and damp, and the rainfall very heavy during certain portions of the year. In summer, Europeans mostly retire from the city to the pretty bungalows on the hill-tops, which are fanned by the cool sea breezes; but everywhere on the island the atmosphere is very moist, although not nearly so unhealthy as was at first believed. Occasionally Hong-Kong is visited by destructive hurricanes, called typhoons. During the season, when these are prevalent in the surrounding seas, wireless warnings are issued to shipping.

About 80 miles up the river lies Canton, the great commercial city of South China, which is connected with Hong-Kong by a service of steamboats, and with British Kowloon by a railway, of which 23 miles and the section running across Kowloon and the New Territories, is owned by the Government of Hong-Kong. There is also a light railway which runs into the New Territories for several miles. A trip across the Lyeemoon and up the Canton River affords an excellent way of seeing something of the commerce which finds an outlet at Hong-Kong. Native craft of all descriptions, side by side with European river steamers, pass by laden with the merchandise of Europe and China.

WEI-HAI-WEI.

This territory, which lies on the coast of the Shantung Province in North-eastern China, includes the island of Liu Kung and the other small islands in the Bay of Wei-hai-wei, together with a strip of country 10 miles broad along the whole coast-line of this bay. In addition to this territory there is a sphere of influence, which includes full military rights, covering that part of the Shantung Province lying to the east of the meridian 121.40, and comprising an area of 1,500 square miles.

The whole of this territory has been leased from the Chinese Government. It is a British naval station of first-rate importance, and shortly after its acquisition was described by Admiral Lord Charles Beresford as "an immense acquisition to our naval strength in the China Sea." Being situated at the extremity of the Shantung Peninsula, with its anchorage sheltered by the island of Liu Kung, which is nearly as large as Gibraltar, it commands the approaches to the Pe-i-Ho River, the Grand Canal—which runs for many hundred of miles through Eastern China and forms an important commercial highway, although blocked in certain parts with silt through neglect—the great city of Tientsin, and the coast route to Pekin. It is distant about 80 miles from Port Arthur, and is strongly fortified.

THE SHANGHAI AND NANKING RAILWAY STATION *Photo, C.P. Rly.*

Wei-hai-wei was acquired by the Imperial Government to form a naval station in North China "for the better protection of British commerce in the neighbouring seas." It was, however, first fortified by the Chinese previous to its capture in the war with Japan; and was the scene of Admiral Ting's last stand, China's only brave and clever leader in the war of 1894.

The climate of Wei-hai-wei is decidedly healthy. In winter it is cold, dry and bracing, while the summer is by no means excessively hot; and the average annual rainfall is comparatively light. It is the sanatorium for the British naval and military forces stationed in China. Although the revenue is only about £30,000 a year, the average annual value of the imports exceeds £600,000, and that of the exports £500,000.

About this heterogeneous territory little can be said, for it is almost exclusively a naval base. There is regular steam communication with Shanghai, and it is a port-of-call for several lines trading with North China. The Government is vested in a Commissioner, and there is a High Court for the administration of all sections of the law. The numerous Chinese villages are, however, under their own head-men. Wei-hai-wei possesses a well-equipped dockyard and all the appurtenances of an important fortified naval base. (See *Defence*, *Sea Routes*, etc.)

SHANGHAI.

Perhaps the most remarkable anomaly of empire is Shanghai, one of the chief foreign commercial centres of China. It is a curious example of a truly international city on Asiatic soil. Strictly speaking Shanghai is not a British colony, or even protectorate, but is composed of three "concessions"—British, American, and French—the first two are united under the title of "The International Settlement," but the latter still retains full liberty of government.

From this it will be observed that Shanghai is but a generic name covering a prosperous European city which has rapidly sprung up upon three concessions of barren land granted by the Chinese Government to Great Britain, the United States and France by the Treaty of Nanking, which also provided for the opening of four other ports to foreign trade;

these have since multiplied in number, and are known as " Treaty Ports."

The situation of Shanghai, within a few miles of the mouth of that great highway into the heart of China, the Yang-tsze-Kiang, on the broad bosom of which floats much of the commerce of the fertile, though somewhat malarious, Yang-tsze-Kiang Valley, with its population of over 150,000,000, from the first insured it a more than passing share in the foreign trade of China. Anyone who has not seen the shipping on the Lower Yang-tsze-Kiang and Whanpoo Rivers can scarcely conceive its importance ; figures convey but a poor idea of the busy scenes of activity. Steamers and sailing ships from all parts of the world navigate the waters of the Whanpoo, while the Yang-tsze-Kiang is dotted for hundreds of miles of its course into the interior with river steamers, junks, sampans, and many queer native craft.

The 14 miles' journey up the Whanpoo River, which branches from the Estuary of the Yang-tsze-Kiang at Wusung, reveals the great fertility of the country surrounding Shanghai. In addition to miles of cultivated fields there are innumerable thickets of bamboo and willow, villages, and the dilapidated huts of the vast agricultural population of China. It is not until Shanghai is reached however, and one is motoring along the " English Bund " that the busy streets and handsome buildings of this city can properly be appreciated. A glance at the shipping-covered river, the compradores, coolie gangs on the wharves, and the prominence of anything and everything maritime, quickly causes one to realise that it is upon the merchant fleets of Europe—and Great Britain especially—that Shanghai depends for her surprising prosperity.

The Bund is the main artery of the International Concession. It is a fine broad thoroughfare lined on one side with magnificent buildings of British architecture. Here are the offices and residences of the well-to-do brokers, merchants, and ship-owners, as well as the customs building, with its fine clock-tower, clubs, one or two statues, and edifices of many kinds, but all vieing with each other in size and magnificence.

The police forces of Shanghai are as cosmopolitan as the inhabitants. In the International Concession there is a sprinkling of British among a smart body of Sikhs, a considerable number of Chinese and a few Americans. Across " the channel," in the French concession, one sees the familiar figure of " M'sieur le gendarme " with the inevitable sword. Besides the various civil and criminal European Courts of Justice in Shanghai, there are the " mixed courts," in which are tried cases relating to Chinese subjects residing in one or other of the concessions, for, although they pay taxes and frequently own property, they are nevertheless often recognised Chinese subjects and consequently outside the jurisdiction of the foreign courts. As the Chinese authorities have no power to act judicially, or otherwise, inside the foreign concessions, and even Chinese residents are entitled to a certain measure of protection, being ratepayers, tribunals have been established where a foreign officer sits in judgment with a Chinese official. The code has been adapted from the ancient laws of China, leaving out such barbarous punishments as " death by the thousand cuts " and various forms of torture. The sentences on criminals in these courts are all carried out within the foreign concessions. (For Mixed Courts, see also EGYPT.)

In the Shanghai market may be seen a great variety of edibles from all parts of China and the East ; ducks from the extensive marshes and lakes on the great Yang-tsze, pheasants from Nieuchang, cattle from the surrounding provinces, custard apples and mangoes from the Phillipines, coco-nuts and ground nuts from Borneo, bêche-de-mer from the Torres Strait (seldom seen on account of high price), Queensland, and the Malay Archipelago, fish from the Yellow Sea, and samples of almost every product of the Far East.

The Nanking Road is gay with the curious signboards and advertisements of Chinese tradesmen, and anything may be purchased here from shell-china, jewellery, and carved-handled daggers, to the books of the learned of ancient Cathay. Honan Road is the site of more pretentious buildings, and is famous for its silk stores ; but the favourite drive of fashionable Shanghai is along the beautiful avenue leading to the " Bubbling Well."

Surrounding the two European settlements there is the native city of Shanghai, with a population of over 1,000,000. This is, however, entirely under the control of the government in power in China. The number of Europeans in the International Settlement is approximately 32,000, and in the French Concession about 8,000.

TREATY PORTS.

In addition to the Crown Colony of Hong-Kong, the naval base of Wei-hai-Wei, and the Shanghai Concession, the British have the " right of residence and trade " in the Treaty ports, which is also enjoyed by the subjects of other foreign countries. Many of these so-called ports are really large inland (mostly riverside) towns, where the importance of foreign commerce has necessitated the granting of concessions of land for a European quarter. In these the subjects of the Treaty Powers can live and carry on business without the interference of local Chinese authorities, for they are entirely outside the jurisdiction of native government, being governed by the foreign Consuls in collaboration with the merchants themselves.

Although the Treaty Ports, being international, are not within the Empire, their importance as commercial outposts makes it necessary to mention these places in order to complete the survey of England in China. There are 64 Chinese ports open to foreign trade, with a total residential area (including Manchuria) of about 3,700 square miles. About 20,000 foreigners reside in these Treaty Ports, and out of this number 12,236 are British subjects. The principal centre of foreign trade is, however, Shanghai (*q.v.*). (See also under *Commerce*, etc.).

CIVIL SERVICES

HISTORY AND COMPOSITION OF THE ADMINISTRATIVE SERVICES OF THE EMPIRE

THE civil services consist principally of the permanent administrative and clerical officials of the civil government. The generic name " Civil Servant " is very comprehensive, and may at times be somewhat misleading. From a technical standpoint an Ambassador, a Permanent Secretary of State and a Lieut.-Governor, are civil servants, and so also is a boy clerk, a girl typist and an office messenger in a government department ; the whole permanent clerical and general staff of each of the Governments of the Empire being classed under this one heading.

The four great divisions of the Government service are the Navy, the Army, the Air Force and the Civil Service. In each of these there are commissioned, intermediate, and non-commissioned ranks, but in the latter service the divisions are not so marked, noticeable or easily distinguished as in the former three fighting services. Generally, however, those junior appointments which may lead to the topmost position in any branch or sub-division of the Civil Service may be considered as comprised within Class I, those where the career is more or less limited to positions of minor importance or authority as within Class II ; and those where the work is of subordinate, or of a more manual than intellectual kind, as forming Class III.

Appointments to Classes I and II are generally made from successful candidates in open or limited competitive examinations, and in some cases a nomination is also required for Class I from a Cabinet Minister or other high officer of State. The examinations for the premier division are decidedly severe and can, generally, only be successfully passed by candidates who have had many years special coaching at one of the Universities. For those appointments which come under Class II the competition is even more keen, but the standard of the examination is much lower, and comes within the reach of most public or secondary schoolboys after a few months' special coaching. For the technical branches of the Civil Service special knowledge and qualifications are necessary. The appointments made by patronage are confined to special departments, mostly Educational and Religious.

Distinction must be made between what is known as the Colonial Civil Service and the Dominions Civil Services. The former is that branch or branches of the Imperial Administrative which is recruited for service in the Crown Colonies and Protectorates, whereas the latter are the separate services of the Self-Governing Dominions ; appointments to which are exclusively in the hands of the Australian, Canadian, New Zealand, Newfoundland, South African, Irish Free State, and Rhodesian Governments. There are also the Civil Services of India, Borneo and Sarawak (*q.v.*).

HISTORY AND COMPOSITION OF THE CIVIL SERVICE.

The Imperial Civil Service is divided into Home, Colonial and Foreign branches. In some cases the home service is interchangeable with one of the other two. There are 22–25 departments of the home service.

ADMIRALTY.

The administration of the Royal Navy, in all its various branches, and the jurisdiction in maritime cases, is exclusively in the hands of the Board of Admiralty, or Navy Department. In earlier times all these duties were nominally performed by "The Lord High Admiral"—the ninth Great Officer of State. With the rapid increase in the work of naval administration "Commissioners" were appointed "to execute the office of the Lord High Admiral." These Commissioners became "The Lords of the Admiralty," and the department under their immediate control became known as "The Admiralty," which, as one of the principal departments of State, has been in commission since 1708.

The composition of this department is given under Defence (*q.v.*). The personnel of this office is divided into the Naval Staff and the civil (or clerical) staff. The former is a part of the Navy itself, and the latter of the Imperial Civil Service. The civil staff is sub-divided into many departments. The junior appointments are made from successful candidates in the Civil Service Examination of the First Class (age 22–24) or second Class (age 17–20).

WAR OFFICE.

The administration of the Imperial Armies is conducted by a Secretary of State for War aided by an Army Council (see *Defence*), and the department for executing the actual administrative work is known as the War Office. Previous to 1794 a Secretary for War supervised the Military Administration, but was not a Minister of State. In that year a "Secretary of State for War" was first appointed. In 1801 the portfolios of War and the Colonies were united, but in 1854 the latter was given into the hands of a separate Secretariat. In 1904 an Army Council was created by Royal Letters Patent, and to this body was transferred all the powers hitherto exercised by the Secretary of State for War and the Commander-in-Chief of the Army. The personnel of the War Office, like that of the Admiralty, is divided into the Military Staff and the Civil Staff. First appointments to clerkships in the latter branch are made to successful candidates in the Civil Service Examinations (Classes I and II).

AIR MINISTRY.

The administration of the Royal Air Force and the supervision of civil aviation is in the hands of this newly-created office. There is a Secretary of State for Air and an Under-Secretary, together with a Directorate of Civil Aviation. The personnel of this office is divided into the Air Staff, the Technical Staff and the Administrative Staff. Among the principal departments are: (1) Department of the Chief of the Air Staff; (2) Personnel; (3) Supply and Research. There is also the Directorate of Civil Aviation (see *Defence.*)

FOREIGN SERVICES.

From the year 1688 to 1782 the foreign affairs of England were in the hands of a Secretary for the Northern Department of Europe, but in 1782 a Secretary of State for Foreign Affairs was created. It is the work of this department to supervise the Diplomatic and Consular Officers of the Empire, resident in all the countries in the world, to carry out certain formal duties, such as the issuing of passports and the reception of foreign diplomatic and consular officials, and to generally conduct the official communications between all and every part of the Empire and foreign countries.

The head of this department is the Secretary of State for Foreign Affairs, who is also a Cabinet Minister, and consequently is responsible for determining (in conjunction with the remainder of the Cabinet) the foreign policy of the Empire. This official is assisted by a permanent Under-Secretary, one or two Parliamentary Under-Secretaries and three Assistant Under-Secretaries, with a Legal Adviser and twelve Counsellors.

The personnel of the Foreign Office is principally composed of Clerks of the first and second division, but there is also a body known as the King's Foreign Service Messengers (King's Messengers) and also some Home Service Messengers. Junior appointments in this department of the Civil Service are varied. Candidates must, in nearly all cases, be nominated by the Secretary of State for Foreign Affairs before entering for the competitive examinations. The appointments are to clerkships I and II, Attachés in the Diplomatic Service (age

Photo, Underwood

THE ADMIRALTY, LONDON
The administrative headquarters of the Royal Navy

22–25), Consular appointments, and Student Interpreterships (Consuls in China, Siam, Japan, the Far East, and in Turkey, Persia and the Near East).

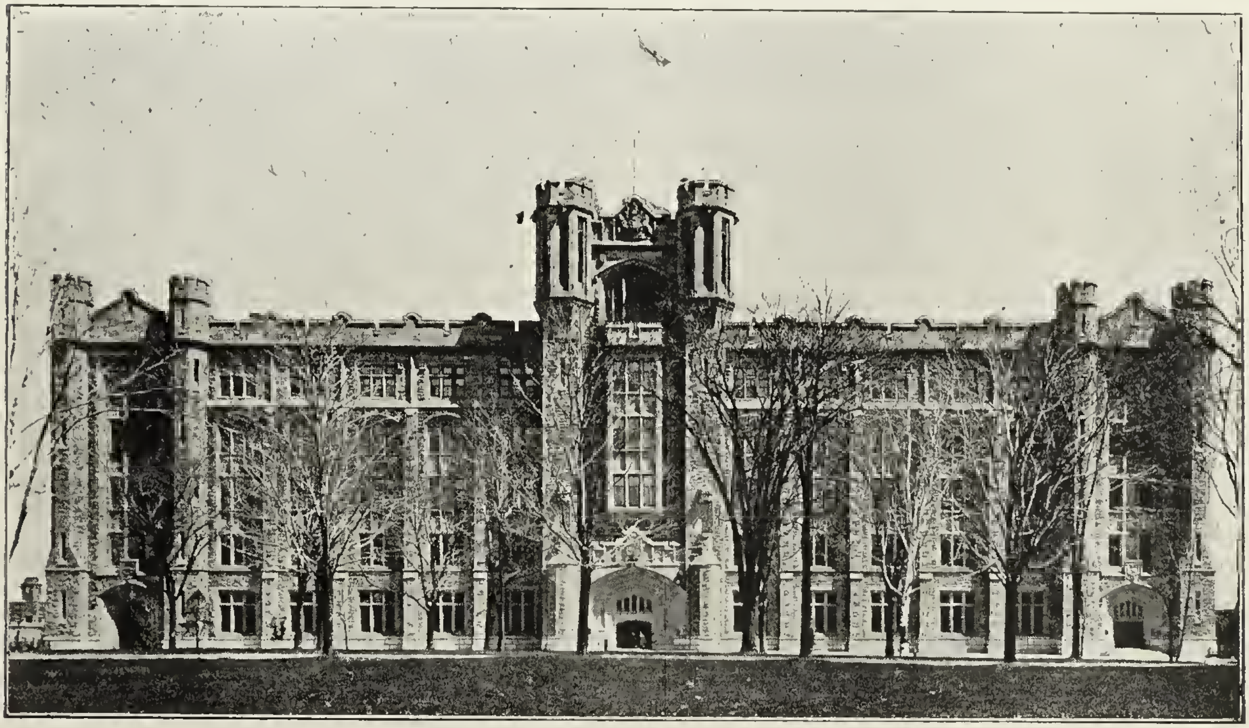
DOMINION AND COLONIAL SERVICES.

Up to the year 1801 Colonial affairs were in the hands of the Home Secretary, but in that year they were transferred to the Secretary of State for War. The outbreak of the Crimean War in 1854 led to the creation of a Colonial Office under a separate Secretary of State. In 1925 another sub-division was made, and a Secretary of State for Dominion Affairs was created, with a Dominions Office and Staff. The duties of these Departments include the supervision and control of the administration of all the Crown Colonies and Protectorates; and the maintenance of proper consultative relationship between the Imperial Government and those of the Dominions.

The Secretary of State for Dominion Affairs and the Colonies is assisted by a Permanent Under-Secretary for the Dominions and also one for the Colonies, and four assistant Under-Secretaries. There are also two Parliamentary Under-Secretaries. The personnel consists principally of clerks of the First and Second Division. There is also an Oversea Settlement Committee, an Empire Marketing Board, a Colonial Audit Department, and an Executive Council of the Imperial Institute (*q.v.*). Junior appointments in this department of the Civil Service are varied. The Home Service consists of clerkships in Divisions I and II; the Colonial Service includes administrative officers for all the Crown Colonies and Protectorates; and there is a special corps known as Eastern Cadets, from which the Civil Services of Ceylon, Hong-Kong, and British Malaya are supplied with Junior Officials.

OTTAWA, CANADA, THE GENERAL POST OFFICE *Photo, C.P. Rly.*

The Crown Agents for the Colonies are specially appointed by the Secretary of State



OTTAWA, THE CUSTOMS OFFICES *Photo, C.P. Rly.*

to act in the United Kingdom as commercial and financial agents of the Crown Colonies and Protectorates. The Self-Governing Dominions have High Commissioners and Agents General resident in London, who act as Dominion Ambassadors at the Imperial Court. One of the special charges of the Dominions Office is all business relating to Imperial Conferences (*q.v.*).

HOME SERVICES.

Previous to 1782 the Internal affairs of the British Isles were controlled by a Southern Secretary, who supervised the administration of not only Great Britain and Ireland, but also that of the Colonies, and the diplomatic and commercial relations with the countries of South Europe. In 1782 a Foreign Secretaryship was created, leaving the Home, Irish and Colonial affairs in the one hands, and also indirectly the War administration until the year 1794. In 1801 the Colonial Secretaryship was created, leaving the Home Secretary free to supervise the great department which controls the internal affairs of Great Britain.

The principal duties of this department are, the supervision of the Judicial system, the use of the Royal prerogative of mercy, the supervision of factories, explosives, mines, aliens, reformatory schools, prisons, constabulary, and all new Acts of Parliament affecting the administration of Great Britain. The personnel consists of the Principal Secretary of State for Home Affairs, the Permanent and Parliamentary Under-Secretaries, aided by principals and clerks drawn from Divisions I and II ; technical inspectors for factories and mines, and legal and medical experts for evidence in criminal cases. The Home Office is the correct medium of communication between the King and the people.

INDIAN SERVICES.

Previous to the transfer of Indian affairs to the Imperial Government in 1858, all Indian business was conducted by the Court of Directors of the East India Company. On the transfer to the Crown of the administration of the vast Indian Empire a new department was created, called the Secretary of State for India and Council. This administrative board supervises the government of the whole Indian Empire (*q.v.*). The cost of maintaining this office is defrayed from the revenues of India.

The Secretary of State is aided by a Permanent Under-Secretary, a Parliamentary Under-Secretary, a Deputy Under-

Secretary, an Assistant Under-Secretary, a controller of finance, and a council of twelve members. The personnel of the India Office consist of clerks (I and II), political, financial, military, medical, technical and general secretaries, and directors of various Anglo-Indian services.

Representing the Government of India in London is a High Commissioner, an office created by the Government of India Act 1919. This official is subject to the control of the Governor-General in Council and the Secretary of State for India. There is now a considerable staff, with several departments working under the High Commissioner.

TREASURY.

The office of Lord High Treasurer of England has been established since 1612. The Commissioners for executing this office, known as Lords of the Treasury, consist of the Prime Minister, the Chancellor of the Exchequer and several junior lords, with a staff of secretaries and clerks.

The duties of this department are to frame the Budget, or expenditure for the year, which is submitted for the approval or rejection of Parliament. The expenditure is arranged in consultation with the great spending departments of the Government, such as the National Debt Office, Ministry of Health, Civil Service and Ministry of Labour, and the arrangement for the revenue to meet this expenditure is adjusted in consultation with the great collecting departments of the State, such as the Inland Revenue, Post Office and Customs. The personnel of the Treasury, in addition to the Lords Commissioners, consists of Joint Secretaries, Controllers, Principal Secretaries, Legal Officers, Accountants and Clerks (I and II).

BOARD OF TRADE.

King Charles II established a Board of Trade and Plantations in 1660, which gave place to a Council of Trade in 1785. This committee, with additional powers and duties, still controls the collection of trade statistics, commercial diplomatic representatives abroad, the maintenance of standard weights and measures, bankruptcy (non-

THE TREASURY, BRISBANE, QUEENSLAND *Photo, Australian Government* legal), registration of joint stock companies; water, gas, railway, tramway and electric lighting companies; merchant shipping, harbours and lighthouses.

The President of the Board of Trade is assisted by a chief Economic Adviser to the Government, a Permanent Secretary, a Parliamentary Secretary, and five Assistant Secretaries. The personnel is divided over several departments having charge of Oversea Trade (conjointly with the Foreign Office), statistics, Labour, the Mercantile Marine, Harbours, Railways, Internal Commerce, Bankruptcy and other affairs; and consists of controllers, secretaries, technical advisers, receivers (bankruptcy), inspectors and clerks (I and II).

POSTAL SERVICES.

It is not certain at what date the Crown undertook the regular carriage of letters for its subjects. The first Master of the Posts was created in 1516, but for many years after this date the carriage of letters did not form a revenue producing department of the Government. The Post Office has, however, become one of the three great revenue collecting systems of the Imperial Government. The amount received each year averages about £59,000,000.

It is interesting to note that the Penny Post was established in 1840 and maintained up to the time of the financial strain of the Great European War in 1914–19, the P.O. Savings Bank in 1861, the P.O. Telegraphs in 1868–70, the Parcel Post in 1883 and the Telephone in 1912.

At the head of this great revenue collecting department is the Postmaster-General, who is assisted by a Secretary to the Post Office, a second secretary and six assistant secretaries. The personnel is very large and varied, including Clerks of the I, II and III Divisions, as well as technical officials for the enquiry, telegraph and telephone departments.

MINT.

The first Warden of the Mint was appointed during the reign of Henry I (1100); but the Royal Mint, as now established, dates only from 1810-17. The ancient post of Master of the Mint was combined with that of Chancellor of the Exchequer by the Coinage Act of 1870. The important work of the Mint in manufacturing the coinage of the realm and in engraving the King's seals is too well known to need description.

INLAND REVENUE.

The Board of Inland Revenue was established in 1849, and consists of a Chairman and Deputy Chairman, with three Commissioners who are assisted by joint secretaries, assistant secretaries, controllers and staff officials, aided by clerks of the I, II and III Divisions and other officials necessary for the proper fulfilment of its vast revenue-collecting duties.

There is a branch head office of the Inland Revenue in Edinburgh (Scottish Section). The Inland Revenue of Great Britain is derived from the property and income tax, super-tax, estate duty, death duties, and certain stamps and taxes. The approximate amount of revenue collected averages about 400 millions a year. The cost of collection is, however, very heavy and the machinery very complicated and cumbersome.

CUSTOMS.

The first appointment of a Commissioner of Customs occurred in 1671. Twice the "Long Room" has been destroyed by fire, in 1718 and 1814. In 1830 the Irish Customs were transferred to London, but a re-arrangement was again made necessary in 1923 by the granting of Self-Government to North and South Ireland. In 1909 the Excise Office, formerly a branch of the Inland Revenue (*q.v.*) was transferred to the Board of Customs and Excise, which now consists of a Chairman, Deputy Chairman, three Commissioners and a large staff of Secretaries, clerks (I and II), medical and legal officials, statisticians, and an Outdoor Department of Inspectors. The approximate amount of revenue collected by this department averages between 150 and 200 millions sterling per annum.

BOARD OF EDUCATION.

Previous to the Act of 1899, which established the Board of Education, the distribution of Parliamentary grants for education and the general supervision of educational affairs were in the hands of a Committee of the Privy Council, appointed in 1830. The Board of Education, as now established, consists of a President, a Parliamentary Secretary, and a Board comprising the Lord President of the Council, the First Lord of the Treasury, the Chancellor of the Exchequer, and the Secretaries of State.

This office is divided into many departments, each having charge of a specific branch of the Educational system, among which may be mentioned the Medical Department, the Legal Department, Architects Department, Technological Branch, Royal College of Art, Universities Branch (including the training of teachers), Special Inquiry Branch, Elementary Education Department, Secondary Schools, and many other branches. The personnel of the Board of Education is varied, and ranges from Secretaries and Clerks (I and II), to specialists in the various departments, and a large staff of inspectors.

THE DEPARTMENT OF LANDS, SYDNEY *Photo, Australian Government*

MINISTRY OF HEALTH.

A Ministry of Health was created in 1919 to exercise certain defined powers respecting the maintenance of the public health and local government. The duties of the Local Government Board (established in 1871), were transferred to the new ministry, which consists of a Minister, a Parliamentary Secretary, two Permanent Secretaries, an insurance establishment, intelligence, medical, legal, inspecting, engineering, architectural, auditing, housing and Welsh departments, with a large staff of officials and clerks (I, II and III). The duties of the Local Government Board consist principally of supervising and controlling the work and expenditure of Municipal, Urban, District and Rural Councils. The growth of the personnel of this department has been exceedingly rapid.

OTHER BRANCHES OF THE CIVIL SERVICE.

The above are the principal departments of the Imperial Government for which the Civil Service provides the bulk of the Administrative and working staff. In every

PRETORIA, THE PALACE OF JUSTICE *Photo, South African Rlys.*

case the supreme Executive is in the hands of Parliamentary chiefs, who are responsible to the Cabinet and the people.

There are many other State Departments and offices controlling certain branches of the administration, bare mention of the names of which will be a sufficient indication of their functions. There were three new ministries made necessary by the Great War, such as the Ministry of Transport, controlling the ways of communication, the Ministry of Labour, arranging industrial courts, intervening in labour disputes, administering the unemployment insurance, and the appointment and labour bureaux.

Then there is the Civil Service Commission, established in 1855, which conducts the examination of candidates for all appointments in the Civil Service ; the Ministry of Agriculture and Fisheries, which absorbed in 1919 the old Board of Agriculture, established in 1889, and the Fisheries Department of the Board of Trade ; in addition to the ordinary duties implied by its name, the Ordnance Survey, and the administration of the Botanical Gardens, at Kew (London) come within its jurisdiction ; the College of Arms or Heralds College, which was incorporated and endowed by King Richard III in 1484, regulates the granting and bearing of coat armour ; the Charity Commissioners were first appointed in 1853 for the administration of charitable trusts ; the Government of the Duchy of Cornwall, created by Edward III for the support, as a Royal Revenue, of the eldest son of the King ; the Government of the Duchy of Lancaster, founded by Edward III, in 1539, and from which is derived part of the income of His Majesty's Privy Purse ; the administration of the County Palatine of Durham, an ecclesiastical privilege believed to have been created at the time of William the Conqueror ; the Ecclesiastical Commissioners, incorporated in 1836, in order to manage the Estates of the Church of England and, with the revenues so obtained, to endow or augment benefices ; the Exchequer and Audit Department, established in 1866 to audit the public accounts, to supervise the expenditures sanctioned by Parliament; the Friendly Societies Registry, established in 1875, to supervise the banking arrangements of friendly societies, loan societies, savings banks, trade union funds and building societies; the Office of the Registrar-General, which was founded in 1522, but reorganised in 1838, and supervises the registration of births, marriages and deaths; the Government Laboratories, established and enlarged at various times, and wherein researches are made; the Law Officers Department at the Royal Courts of Justice; the Office of the Lord Great Chamberlain at the House of Lords, which appointment is the hereditary privilege of the family of the Earls of Oxford; the British Museum, established in 1881; the Office of the National Debt, created in 1786; the National Gallery, established in 1897; the National Portrait Gallery founded in 1857; the Nautical Almanac Office, a department of the Admiralty which publishes the "Nautical Almanac," founded in 1767; the Greenwich Observatory, Greenwich, 1675-6; the Paymaster-General's Department, established in 1835; the Port of London Authority, 1908; the Office of the King's Privy Council, established in 1895; the Public Works Loan Board, 1817; the Public Record Office, wherein may be seen the records of England and very largely of the Empire which have been systematically kept since 1101; the Salford Hundred Court of Record, which dates from Anglo-Saxon times; the Stationery Office, responsible for all Government Copyrights and Printing, established in 1782; Trinity House, the Pilotage Authority for Great Britain, founded in 1514; the Office of Works and Public Buildings, established in 1832; the Development of Woods, Forests and Land Revenues, founded in

TRALIAN ALLIANCE
GUALTER BUT
SURANCE CO

Photo, New Zealand Government

WELLINGTON, NEW ZEALAND, THE GENERAL POST OFFICE AND VICTORIA STREET

1760; the Patent Office; the Wallace Collection, which was bequeathed to the Nation in 1797; the Department of Overseas Trade; the Ministry of Pensions; the Scottish Office and the Forestry Commission.

There are, in addition to these Government departments, numerous branches and separate offices not only in England and Wales but also in Scotland, the Channel Islands and the Isle of Man (*q.v.*). The whole civil administration both at home and abroad is carried on by over 700,000 employed in the Imperial Civil Services and their related organisations. The total cost in salaries, allowances, expenses and pension funds exceeds £300,000,000 a year. The actual number of Civil Servants in Government Offices at home exceeds 400,000.

CIVIL SERVICE OF CANADA.

In Canada the Civil Service is divided into (1) the inside and (2) the outside service. The Civil Service Commission examines the candidates. Appointments to positions in the Inside Service are made, with few exceptions, after competitive examination. No person is admitted to such examination unless he is a natural born, or naturalised British subject, and has been resident in Canada for at least three years, and is, at the time of the examination of the full age of eighteen years and not more than 35 years, and presents the required certificates as to health, character, and habits. Appointments are thus practically confined to persons brought up in Canada. There are also the Provincial Services which are governed by local statutes.

The Departments of the Dominion Government are: (1) the Ministry of Agriculture; (2) Air Board; (3) Auditor-General; (4) Civil Service Commission; (5) External Affairs, with Paris and Washington Agencies; (6) Finance; (7) Health; (8) Interior; (9) Immigration and Colonisation; (10) Indian Affairs; (11) Insurance; (12) Justice; (13) Labour; (14) Marine and Fisheries; (15)

Photo, by kind permission of the West India Committee

POST OFFICE AND TREASURY BUILDINGS, KINGSTON, JAMAICA (B.W.I.)

Defence; (16) Mines; (17) Navy; (18) Post Office; (19) Privy Council of the King; (20) Stationery Office; (21) Public Works; (22) Railways and Canals; (23) Department of the Secretary of State; (24) Trade and Commerce, with a Bureau of Statistics and Patent Office; (25) International Joint Commission, composed of three Canadian and three United States Commissioners who, jointly, have full powers over the use of rivers and lakes on the international frontiers.

The States Civil Services are entirely local in both recruitment and regulations. The departments of the Federal Government are: (1) Prime Ministers' Department; (2) Treasury; (3) Attorney General's Department; (4) Home Affairs and the Territories; (5) Postmaster-General; (6) Defence; (7) Trade and Customs; (8) Works and Railways.

CIVIL SERVICE OF NEW ZEALAND.

In New Zealand no person may enter the Civil Service without passing a competitive examination; but persons appointed under the Defence Act, 1908, officers of prisons, warders of lunatic asylums, persons possessing expert knowledge, and labourers, skilled or unskilled, are excepted. These rules do not apply to the Railway Staff; and the Postal and Telegraph Department may be excepted from them. There is established a system of mutual guarantee by all the officers of the fidelity of each other.

There is also a Public Civil Service Classification Board which has power to classify the Public Service and fix salaries. The

Photo, by kind permission of the West India Committee

GOVERNMENT BUILDINGS, PORT OF SPAIN, TRINIDAD (B.W.I.)

CIVIL SERVICE OF AUSTRALIA.

The Public Service of the Commonwealth of Australia is divided into the Administrative, Professional, Clerical and General Divisions. With some exceptions, candidates must pass an entrance examination before appointment. Those for the clerical Division must be from 16 to 21 years of age, and those for the Professional Division must be from 16 to 35. Members of the Public Services must, as a rule, insure their lives. They are entitled to retire or to be retired when 60 years old, but may continue till they are 65 or 66. There is a Fidelity Guarantee Fund.

competitive examinations are called the Junior Examination and the Senior Civil Service Examination. The Principal Government Departments are : (1) The Prime Minister's Department.—Railways, Native Affairs, Public Trusts, Scientific and Industrial Research. (2) Ministry of Finance.—Customs, Land and Income Tax, State Advances, Stamp Duties, etc. (3) Postmaster-General's Department.—Telegraphs, External Affairs, Immigration, Tourist and Health Resorts, and State Insurance. (4) Ministry of Labour.—Mines, Marine, Printing, Stationery, Pensions and Publicity. (5) Ministry of Lands, Industries and Commerce. (6) Ministry for Dependencies.—Cook Islands, Native Races. (7) Ministry of Internal Affairs.—Audit, Census, Statistics, High Commissioner. (8) Ministry of Agriculture and State Forests. (9) Attorney-General's Department.— Justice, Defence, Police, Prisons. (10) Ministry of Health. (11) Ministry of Education. (12) Ministry of Public Works.

The Services of India, the Union of South Africa, the Anglo-Egyptian Sudan, Rhodesia, Sarawak and other units of the Empire are described under the territorial headings and information additional to that given in the foregoing article will be found under *Government of the Empire.*

COMMERCE

ALTHOUGH the oversea trade of the whole Empire, including India, has grown steadily until its present value exceeds 4,450 millions sterling per annum, it must not be assumed that the sum of the prosperity of any empire or nation can be accurately measured by the volume of its external trade alone. Especially is this the case with a huge colonial empire, because a large proportion of what, in a nation like the United States, with land instead of sea communications, would be considered as *internal* trade, is, with the British Empire, shown as *foreign and colonial* or *external* commerce.

It is, however, a statistical or economic fact that comparisons of the oversea trade of various countries furnish reliable evidence of relative material progress when considered

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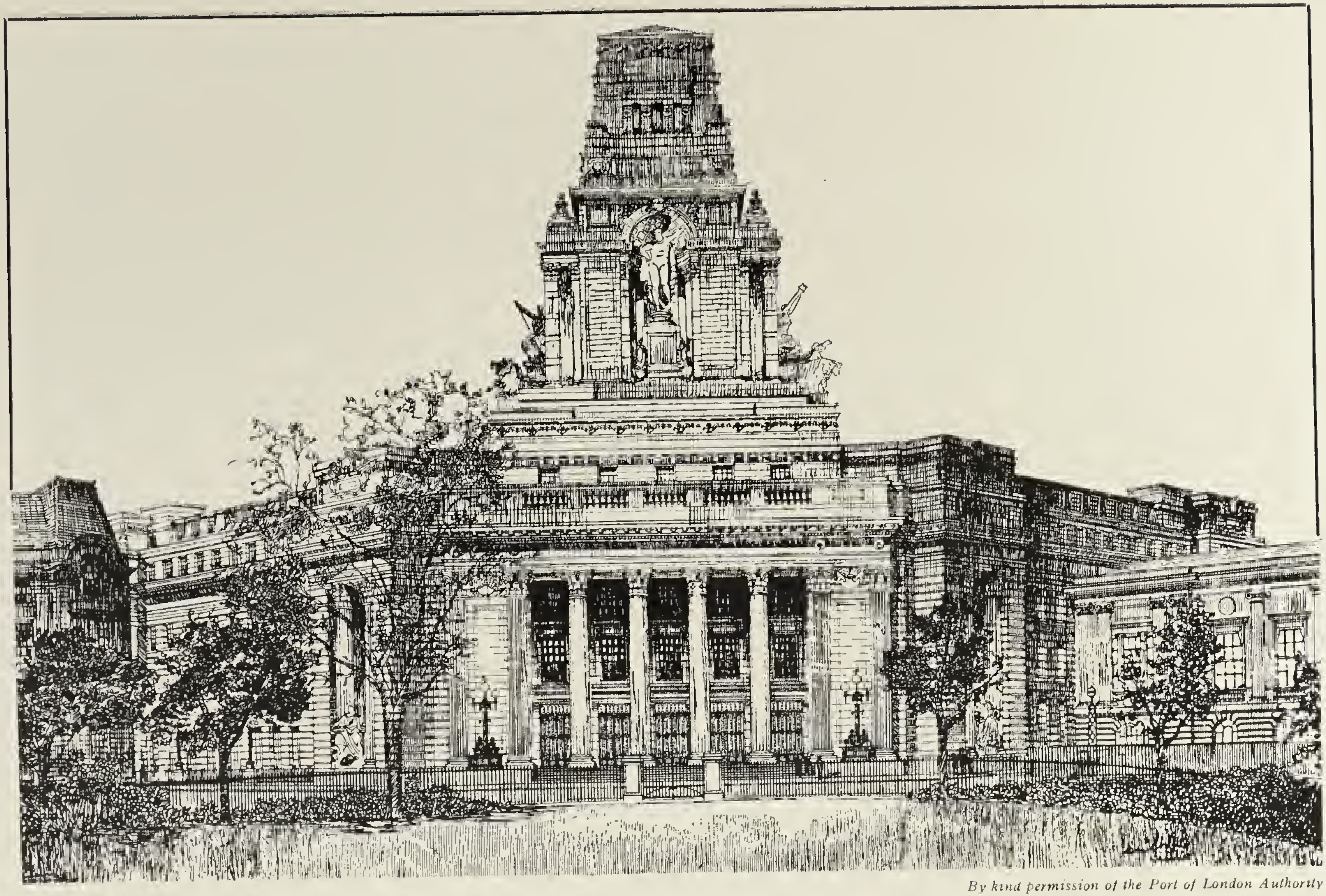
THE POOL OF LONDON, SHOWING THE TOWER BRIDGE



By kind permission of the Port of London Authority

ADMINISTRATIVE HEADQUARTERS OF THE PORT OF LONDON together with other fundamental facts. The only disturbing element disclosed by a statistical analysis of the commerce of the British Empire is the excess of total imports over total exports. This excess has an average annual value of £401,000,000; the total imports amounting to £2,429,000,000 and the total exports to £2,028,000,000. Nevertheless, a careful comparison of the steady rise in the oversea commerce of the British and Indian Empires shows that rapid and yet economically sound advance has been made in the wealth and general prosperity of almost every unit, and that the aggregate commerce of the whole, taken in conjunction with the important fact that the actual carriage of the merchandise is accomplished in a large measure by British-owned vessels, is, relatively, enormously superior to that of any foreign nation or of any empire recorded in history. The average annual foreign trade of the United States, which has been steadily increasing for many years now amounts to about £2,000,000,000.

Commerce of Great Britain and Northern Ireland

The total value of the oversea commerce of Great Britain and Northern Ireland has reached the enormous figure of £2,000,000,000 per annum, made up of imports valued at £1,200,000,000, and exports at £800,000,000. These figures represent averages taken over five years. The imports may be subdivided as follows:—

	£
From British Dominions	400,000,000
From Foreign Countries	800,000,000

The exports comprise the following:—

	£
To British Dominions	292,000,000
To Foreign Countries	508,000,000

Over 90 per cent. of the import trade is conducted direct with England and Wales; 7½ per cent. with Scotland; and 2½ per cent. with Ireland. The exports come from England and Wales to the average extent of 91 per cent.; from Scotland to the extent of 9 per cent.; and from Ireland at 1 per cent.

It is necessary for the purposes of comparison to give here the pre-war (up to 1914) as well as the somewhat abnormal post-war trade of the British Isles. It must be remembered that much of the increase in total average values since 1914 is due to the rise in prices of all commodities. Allowing for this difficult factor it will, however, be apparent that the productive power of the nation has materially increased during quite recent years. The total average annual value of the oversea commerce up to 1914 was £1,540,000,000, made up of imports valued at £843,000,000, and exports at £697,250,000. Since the Great War the total trade has increased to an annual value of £2,000,000,000 composed of imports, £1,200,000,000 and exports £800,000,000.

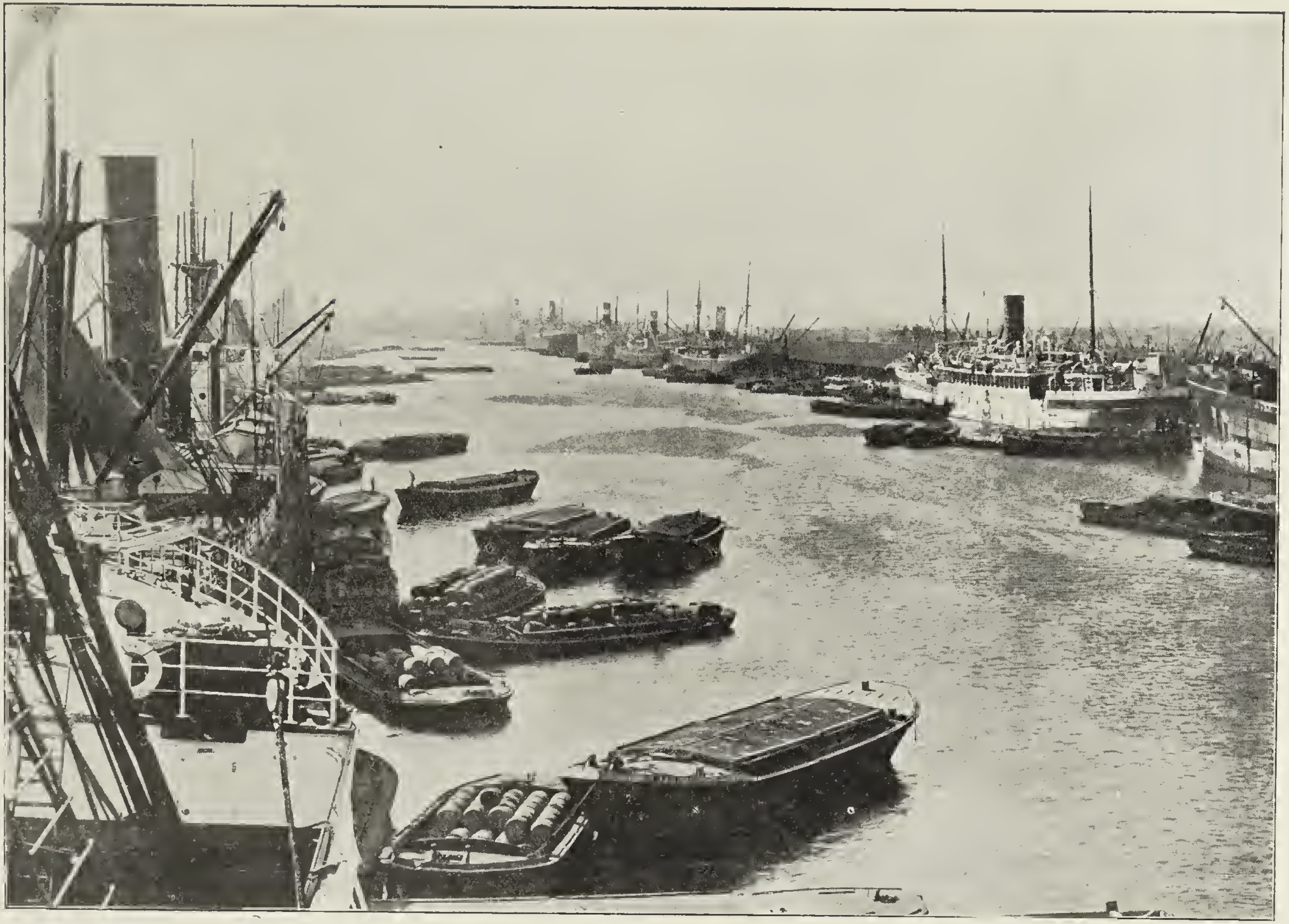
FOOD SUPPLIES.

The importance of the sea-borne wheat supply of the United Kingdom cannot be over estimated. The annual average importation of this "staff of life" amounts to 12,900 million pounds, of which about half comes from various parts of the Empire and the remainder from foreign countries. The principal countries which supply Great Britain with wheat are as follows:—

United States	44 million cwt.
Canada	21 ,, ,,
Australia	21 ,, ,,
Argentina	5 ,, ,,

The following table shows some of the annual food requirements (average) of every person living in Great Britain:—

Wheat	229-267 lb.
Sugar	77- 80 ,,
Eggs (number)	49- 50
Beer	26- 27 gall.
Flour	24- 32 lb.
Beef	20- 21 ,,
Rice	13- 15 ,,
Mutton	11- 13 ,,
Potatoes	9- 15 ,,
Butter	9- 10 ,,
Tea	6- 6½ ,,
Cheese	5- 6 ,,
Tobacco	1- 2 ,,
Spirits	0.65-0.75 gall.

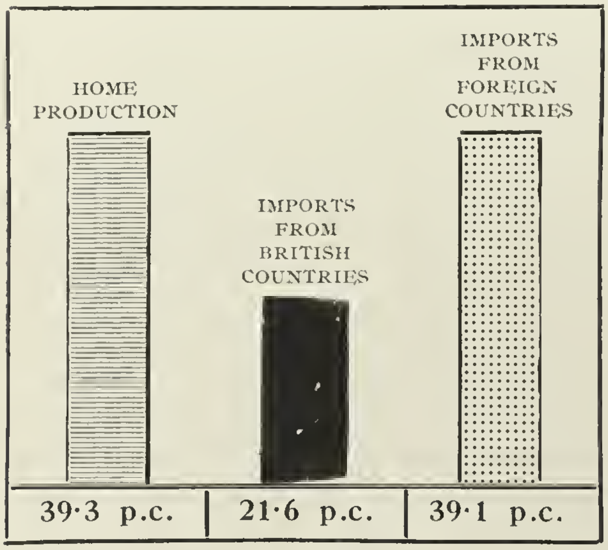


THE PORT OF LONDON *Photo by kind permission of the Port of London Authority*

General View of the Royal Albert Dock

The total water area of the docks and basins forming the Port of London is 641½ acres, with 28 miles of quays. Tugs, tenders, railways, motor lorries, and a fleet of 10,000 barges are included in the vast transport system for the despatch of goods

The following diagram shows the source of *all the food* supplies of the British Isles.



IMPORTS.

The principal imports, with their respective average annual values, are as follows :—

FOODSTUFFS.

	£
Wheat - - - -	71,000,000
Sugar - - - -	20,000,000
Bacon - - - -	44,000,000
Beef - - - -	40,000,000
Butter - - - -	42,000,000
Fruits - - - -	34,000,000
Tea - - - -	23,000,000
Maize - - - -	18,000,000
Mutton - - -	15,000,000
Cheese - - - -	17,000,000
Barley - - - -	10,000,000
Fish - - - -	9,000,000
Wheatmeal and Flour -	19,000,000
Tobacco - - -	23,000,000
Cocoa - - - -	3,000,000
Eggs - - - -	11,000,000
Margarine - - -	5,000,000
Lard - - - -	10,000,000
Hams - - - -	8,000,000
Oats - - - -	4,000,000
Rice - - - -	6,000,000
Coffee - - - -	2,000,000

RAW MATERIALS.

	£
Cotton - - - -	72,000,000
Wool - - - -	43,000,000
Timber - - -	30,000,000
Rubber - - -	11,000,000
Seeds - - - -	4,000,000
Hides - - - -	11,000,000
Iron ore - - -	5,000,000
Jute - - - -	4,000,000
Hemp - - - -	3,000,000
Nuts and kernels - -	9,000,000

MANUFACTURES.

	£
Copper (all kinds) - -	6,000,000
Leather (all kinds) - -	8,000,000
Iron, steel and Manufactures	23,000,000
Tin (all kinds) - -	4,000,000
Lead - - - -	3,000,000
Zinc - - - -	2,000,000

EXPORTS.

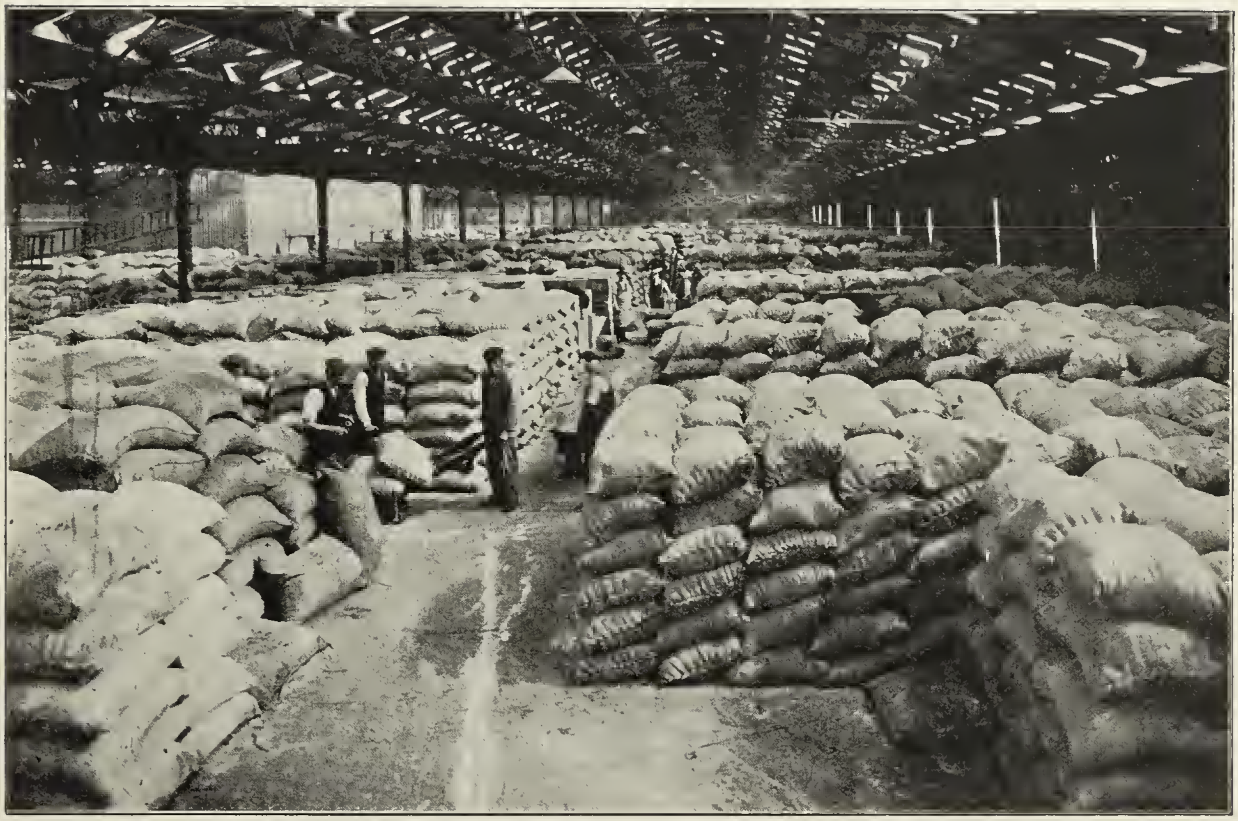
The principal exports are as follows :—

UNITED KINGDOM PRODUCE.

	£
Cotton piece goods - -	137,000,000
Iron (all kinds) - -	64,000,000
Coal - - - -	43,000,000
Woollen tissues - -	25,000,000
Wearing apparel - -	18,000,000
Cotton yarn - - -	24,000,000
Other cotton goods - -	11,000,000
Worsted tissues - -	11,000,000
Linen piece goods - -	5,000,000
Woollen and worsted yarn -	55,000,000
Tobacco - - -	5,000,000
Spirits - - - -	9,000,000
Motor cars - - -	2,000,000
Beer - - - -	2,000,000
Fish - - - -	6,000,000

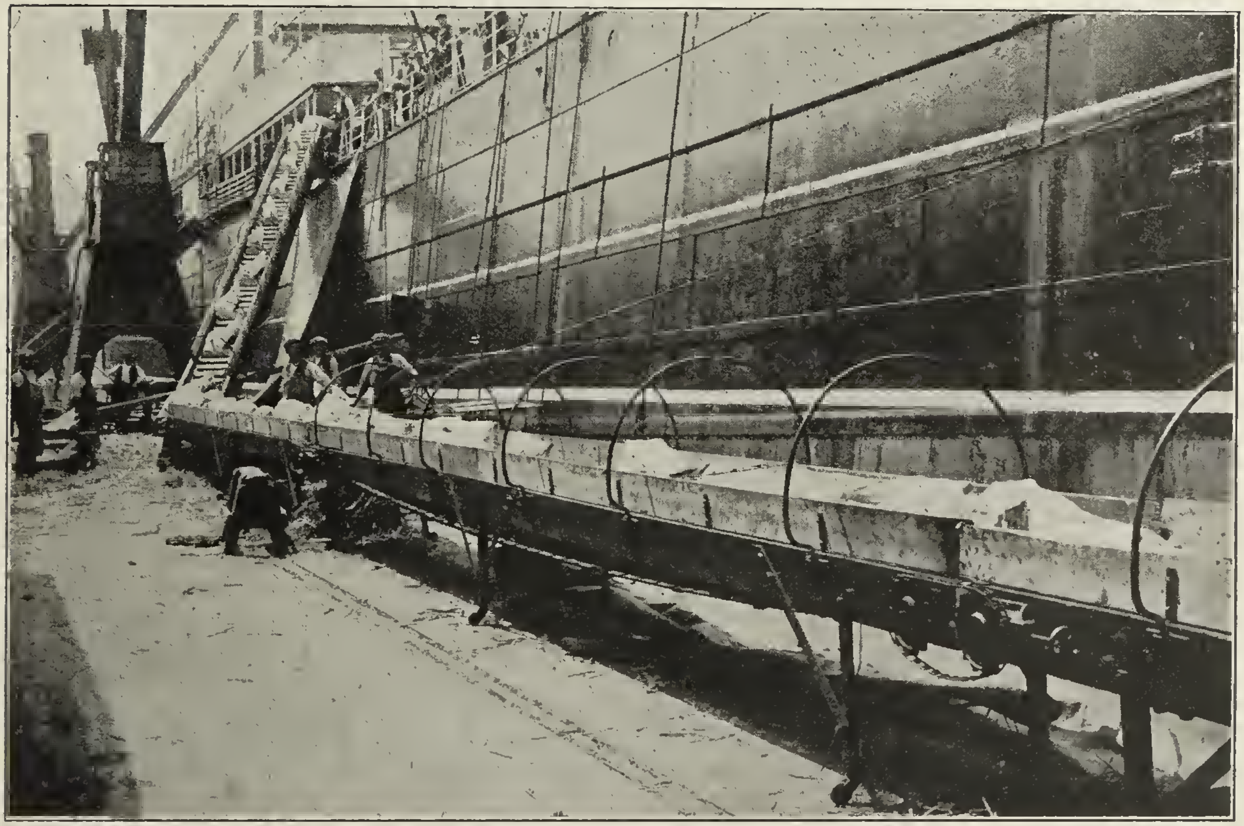
CUSTOMS DUTIES.

The principal articles on which customs duties have in the past been levied are, tobacco, beer, sugar and glucose, tea, spirits, cocoa and chocolate, motor spirit, wine, coffee, clocks and watches, matches and lighters, currants, raisins, and other dried fruits, motor cars and cycles, cinematograph films, chicory, scent, silks, electrical apparatus (certain kinds only), playing cards, chloroform, collodion, ether, gloves, hops, magnetos, incandescent mantles, knives, scissors and safety razors, lace, embroidery, tungsten, molybdenum, musical instruments, optical glass, pottery, saccharin, scientific instruments, liqueurs, confectionery, preserved fruits (in sugar), synthetic organic chemicals, and wireless apparatus (certain). Almost the entire revenue from this source is yielded by spirits, sugar, tobacco, tea, and wine. The imports entering duty free have an annual average value of £600,000,000, or about 50 per cent. of the whole. It should be noted here that British Empire products are either charged a reduced (a preferential) rate of duty, or else exempt from taxation.



ONE OF THE GIGANTIC WAREHOUSES OF THE PORT OF LONDON AUTHORITY

The total capacity of all these stores is approximately 1,000,000 tons of merchandise



Photos by kind permission of the Port of London Authority

DISCHARGING FROZEN MEAT AT THE ROYAL VICTORIA DOCK, LONDON

The unloading is accomplished by endless band conveyors. The cover has been removed to show the working

Colonial and Foreign Commerce

The following table shows the principal Dominion, Colonial and foreign markets for the productions of the United Kingdom (approximate average) :—

British and Indian Empires.

	£
Indian Empire	86,000,000
South Africa	34,000,000
Canada	30,000,000
Australasia	87,000,000
Irish Free State	46,000,000

Foreign Countries.

	£
United States	75,000,000
Germany	47,000,000
France	45,000,000
Argentine	26,000,000
Netherlands	38,000,000
Italy	16,000,000
Belgium	26,000,000
China	18,000,000

Development of Empire Markets

During quite recent years there has come about a keen desire to develop trade within the British Commonwealth. Very little has, however, been done of a practical character to make this a workable policy.

Pursuant to a resolution of the Imperial Conference held at London in 1911, a Royal Commission was set up to make inquiries, *inter alia*, into the natural resources of the self-governing Dominions (their present and possible future development) and into the facilities for the production, manufacture, and distribution of all articles of commerce therein ; into the food and raw material requirements of those Dominions and the United Kingdom, and the available source of supply thereof ; and into the trade of the self-governing Dominions and the United Kingdom, each part with the others, and with the rest of the world, with the object of showing the natural resources and trade of the Empire, and of offering suggestions for the development of those resources and the extension of that trade. The commission included representatives of the United Kingdom, the Australian Commonwealth, New Zealand, United South Africa, Canada and Newfoundland. Various exhaustive reports have been published.

In 1923 the Imperial Economic Conference, with these reports in hand, laid down definite principles for Imperial development. The policy adopted was, in broad outline, that Empire development should be pressed by every means in order that additional markets may be provided for British manufacturers ; that a constantly increasing flow of migrants from Britain depends on the provision of the necessary money for that development ; that the most efficient and cheapest methods of communication and transit are imperative necessities ; and that an ever-improving organisation of production and distribution within the Empire must be devised.

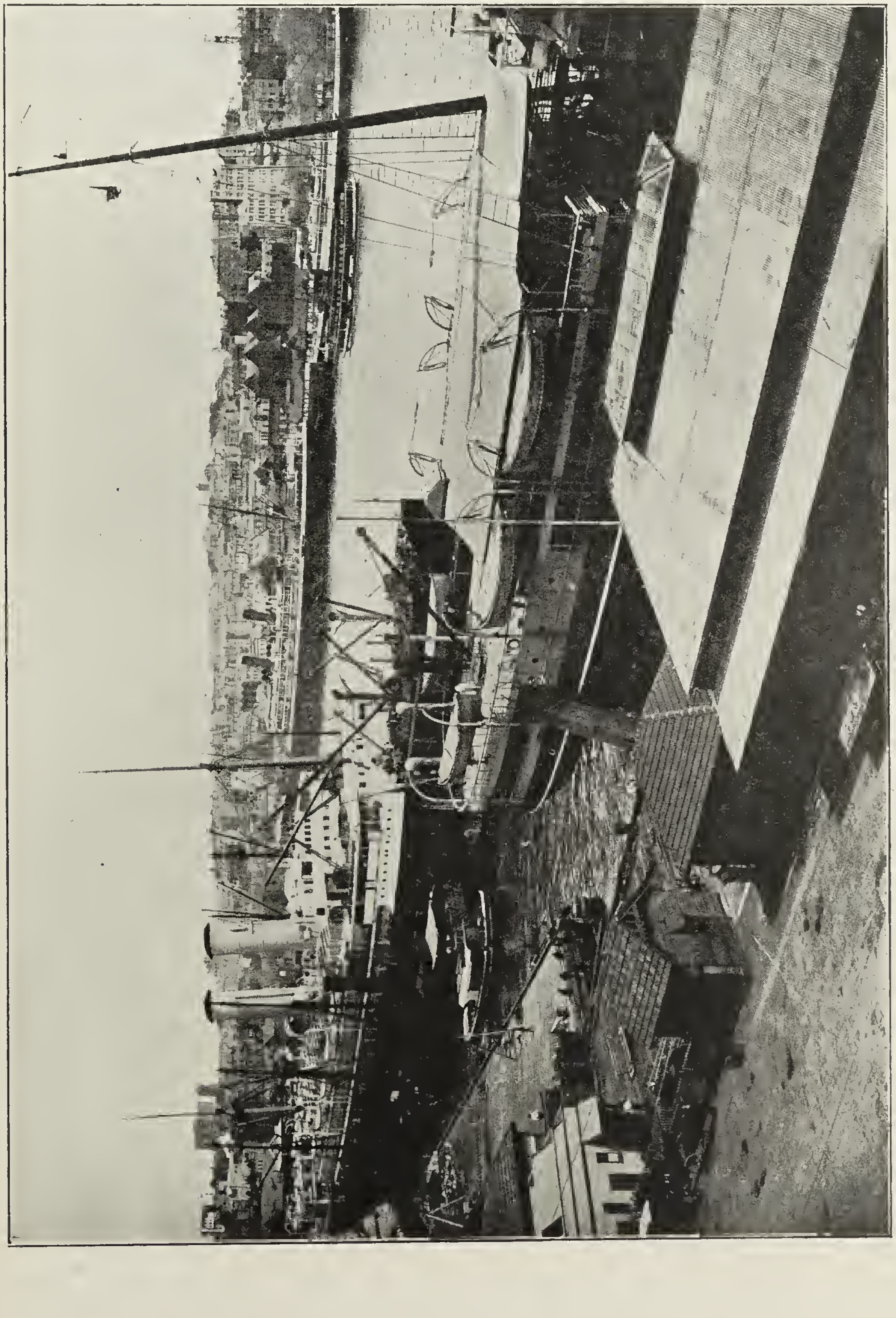
In 1929-30 a political party was formed, in Great Britain, which, for the first time, put forward the policy of an Empire united economically on the broad principle of free-trade within its frontiers.

Commerce of Australia

The oversea commerce of the Commonwealth of Australia rose from £65,781,000 in the year 1888 to £71,646,000 in 1898, and is now £301,000,000 in total average annual value. The imports account for £153,000,000 and the exports for £148,000,000. Up to the end of 1891 the balance of trade was in favour of imports but from that year up to the Great European War the reverse was the case. During recent years, however, there has been a slight adverse balance, which the Australian Government has endeavoured by certain restrictions and wise economies to reduce. The imports from the British Isles average about £65,000,000 a year and the exports to these Islands about £52,000,000.

Of the total value of the imports into Australia over 42 per cent. comes from the United Kingdom and 56 per cent. from the British Empire as a whole. On the other hand the United Kingdom takes 38 per cent. of the Australian exports, and the Empire as a whole takes 49 per cent.

Notwithstanding that the imports from the British Isles have increased from an annual average of £28,818,787, during the quinquennial period of 1887–1891, to about £65,000,000 at the present time, the proportion of the total imports into the Commonwealth has declined during the same period from 70.14 per cent. to about 42 per cent.



Photo, Australian Government

CIRCULAR QUAY SYDNEY, NEW SOUTH WALES

The imports into Australia during the past ten years have come from the following countries to the average annual values stated below :—

Country.	Pre-War average value.	War-period value.	Past five years.
	£	£	£
British Isles	46,000,000	40,000,000	65,000,000
Canada	1,100,000	—	3,800,000
Ceylon	850,000	1,200,000	2,000,000
India	2,100,000	3,300,000	6,200,000
New Zealand	3,350,000	2,500,000	3,300,000
South Africa	300,000	400,000	800,000
Total British Countries	55,500,000	52,000,000	85,000,000
United States	9,500,000	13,000,000	38,000,000
Dutch East Indies	1,400,000	1,200,000	6,000,000
Japan	1,000,000	2,100,000	4,000,000
France	600,000	300,000	4,000,000
Belgium	2,100,000	—	1,000,000
Germany	5,200,000	—	4,600,000
Total Foreign Countries	22,600,000	24,000,000	68,000,000

The annual average value of the exports from the Commonwealth is approximately £148,000,000, of which over 90 per cent. is represented by the actual produce of the country. Australia's best customers are the British Isles, £52,000,000 ; the United States, £9,000,000 ; New Zealand, £4,200,000 ; Belgium, £9,000,000 ; France, £16,000,000 ; South Africa, £3,000,000 ; Japan, £12,000,000 ; Dutch East Indies, £2,000,000 ; Italy, £5,200,000 ; India, £3,000,000 ; and Germany, £12,000,000.

COMMERCIAL LEGISLATION.

By an Act passed in 1905 all goods entering or leaving the Commonwealth must be properly described in detail, including a statement as to where the goods were made or produced ; but the operation of the Act is restricted to the following classes of goods :—

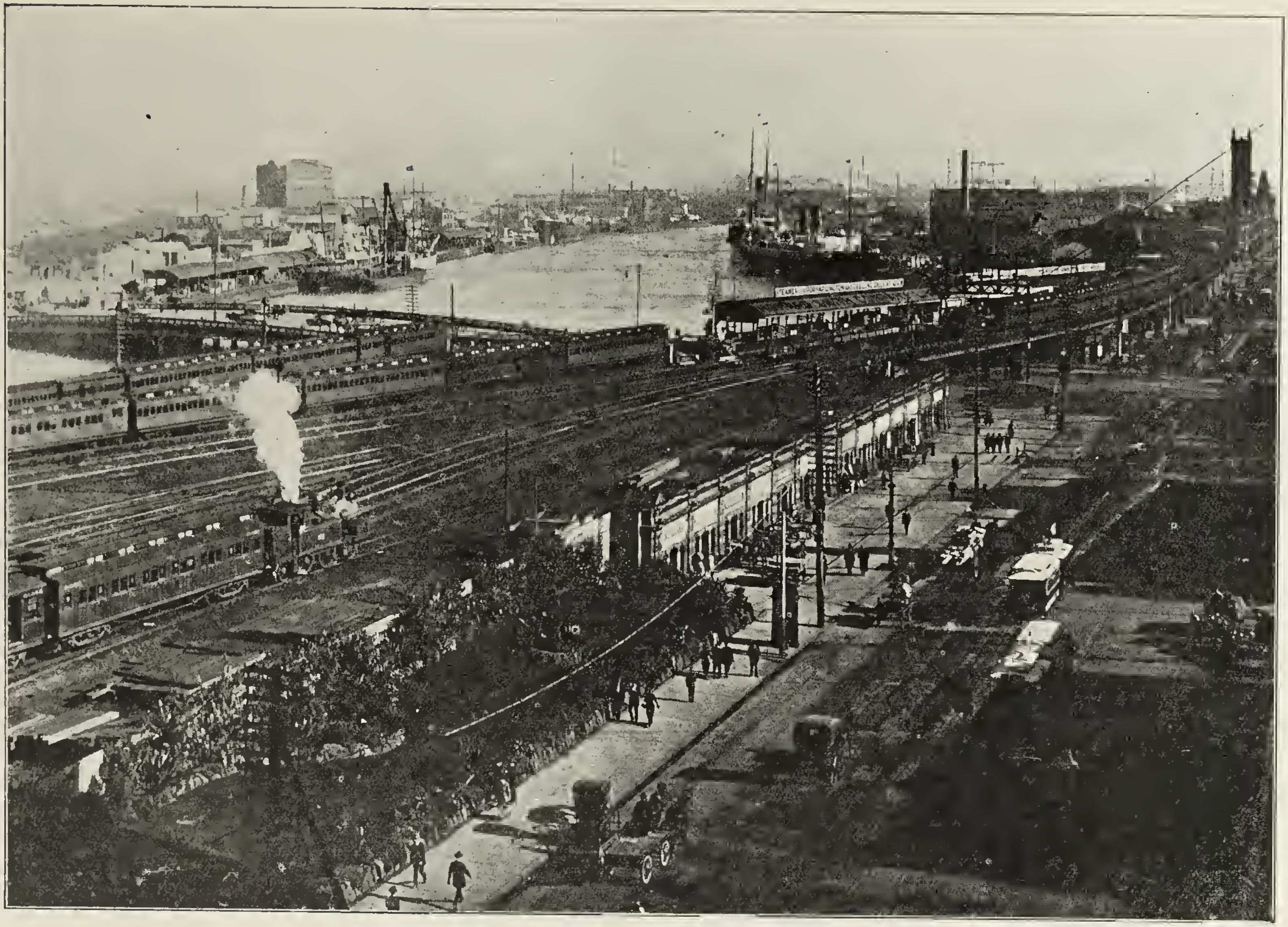
(*a*) Articles used for food or drink by man, or used in the manufacture or preparation of articles used for food or drink by man ; or (*b*) medicines or medical preparations for internal or external use ; or (*c*) manures ; or (*d*) apparel (including boots and shoes), and the material from which such apparel is manufactured ; or (*e*) jewellery ; or (*f*) seeds and plants.

There is also an Act relating to the sea-carriage of goods, making the owners or charterers of any unseaworthy vessel liable for the loss of any cargo notwithstanding any agreements to the contrary. This also applies to improper loading, condition of the ship's hold and stowage. A Secret Commission Act is in force ; and by the Australian Industries Preservation Act monopolies of a destructive character or combines for controlling prices can be legally suppressed. The Customs Tariff Acts give preference to merchandise produced in and shipped from the British Isles, as against goods manufactured in and shipped from foreign countries. These Acts also more closely protect Australian industries from undue competition.

Commerce of Canada

The aggregate external trade of the Dominion has now reached between £520,000,000 and £600,000,000 per annum, made up of imports £253,000,000 and exports £278,000,000. Tracing the history of Canadian oversea commerce we find that from 1868 to 1895, whilst tending generally to increase, it was subject to considerable fluctuation ; but in 1896 began a decided upward movement. From Confederation (1876) to the year 1900 the total trade of Canada increased 197 per cent., while from 1900 to 1929 it increased 646 per cent.

The oversea trade with the British Isles has reached the value of 626 million dollars, composed of imports 196 millions and exports to the British Isles 430 millions. With the whole British Commonwealth the average annual value is 792 million dollars. The



Photo, Australian Government

RIVER YARRA, MELBOURNE, SHOWING FLINDERS STREET AND QUEEN'S BRIDGE trade with the United States is, however, much greater, having an average annual value of 1,368 million dollars, made up of imports 868 millions and exports to the United States 500 millions.

The following table shows the approximate average annual value of Canada's trade with the principal countries :—

TRADE OF CANADA WITH THE BRITISH EMPIRE AND FOREIGN COUNTRIES.
(Years 1886, 1896, 1906, 1914, 1922 and 1929)

Years.	Canadian Trade with— United Kingdom.	United States.	Other British Empire.	Other Foreign Countries.
	Million dollars.	Million dollars.	Million dollars.	Million dollars.
Imports.				
1886	39,033*	42,818*	2,383*	11,756*
1896	32,824	53,529	2,388	16,618
1906	69,184	169,256	14,605	30,694
1914	132,070	396,302	22,456	68,365
1922	117,135	515,958	31,973	82,736
1929	194,041	868,012	63,377	140,247
Exports (Canadian)				
1886	36,694	34,284	3,262	3,515
1896	62,717	37,789	4,048	5,152
1906	127,456	83,546	10,964	13,516
1914	215,253	163,372	23,388	29,573
1922	299,361	292,588	46,473	101,816
1929	429,730	500,167	106,295	327,393

*Three 0's omitted

COMMERCIAL LEGISLATION.

In 1908 His Majesty the King, on the recommendation of the Imperial Government, and at the suggestion of the Canadian Minister of Finance, appointed a Royal Commission to inquire into the condition and prospects of trade between Canada and the West Indian Colonies, and to suggest measures for promoting closer trading relations between them. After having taken evidence in Canada, the West Indies and London, during the years 1909 and 1910, the Commissioners presented their report on 9th August, 1910.

In addition to making a variety of recommendations on different subjects coming within the scope of their reference, the Commission reported in favour of the establishment of reciprocal trading exchanges between Canada and the West Indies, and drafted a form of agreement between Canada and any one of the West Indian Colonies, with schedules of the products of the respective countries which should receive the benefits of preferential tariffs when imported into the Colony or into Canada.

A scheme for the holding of a conference between representatives of Canada and of the West Indian Colonies desirous of adopting the recommendations of the Royal Commission was drawn up by the Imperial Secretary of State for the Colonies, and was accepted by the Government of Canada and by the Governments of the Colonies concerned. The conference met at Ottawa in 1912. At this conference the terms of a ten year's agreement for submission to the different legislatures concerned was settled. Its chief provisions were as follows :—

(1) That the duties of Customs on goods enumerated in Schedule A, being the produce or manufacture of Canada imported into the West Indian Colonies represented, shall not at any time be more than four-fifths of the duties imposed in the Colonies on similar goods when imported from any foreign country, provided that on flour the preference in favour of Canada shall not at any time be less than 12 cents per 100 lb.

(2) That the duties of Customs on goods enumerated in Schedule B, being the produce or manufacture of any of the Colonies represented, imported into Canada, shall not at

any time be more than four-fifths of the duties imposed on similar goods when imported from any foreign country, provided that on raw sugar not above No. 16 Dutch Standard, in colour, and molasses testing over 56 degrees and not over 75 degrees by the polariscope, the preference in favour of the Colony shall not at any time be less than $4\frac{1}{2}$ cents per 100 lb., and for each additional degree over 75 degrees the preference shall not be less than $\frac{1}{2}$ cent per 100 lb.

HALIFAX, NOVA SCOTIA *Photo, C.P. Rly.*

The principal winter port of Canada. It possesses a large entrepot trade, not only with Europe during the months when the St. Lawrence River is frozen and the approach to Montreal is therefore blocked, but also with the West Indies and South America

(3) That on goods enumerated in Schedule C, viz., cocoa beans, limes and lime juice, imported into Canada from the Colonies represented, there shall be no duties of Customs; but certain specific duties are to be imposed thereon when imported from any foreign country.

The Bahamas, Bermuda, British Honduras, Grenada, Jamaica, and Newfoundland are to enjoy the benefits of the concessions granted by Canada under the agreement for a period of three years, at the end of which period the concessions may cease as respects any of such Colonies which shall not have granted to Canada the advantages set forth in Section I of the agreement.

Canada gave effect to this agreement by the West Indian Trade Agreement Act, 1913. On the part of the West Indian Colonies concerned effect was given to the agreement by local ordinances.

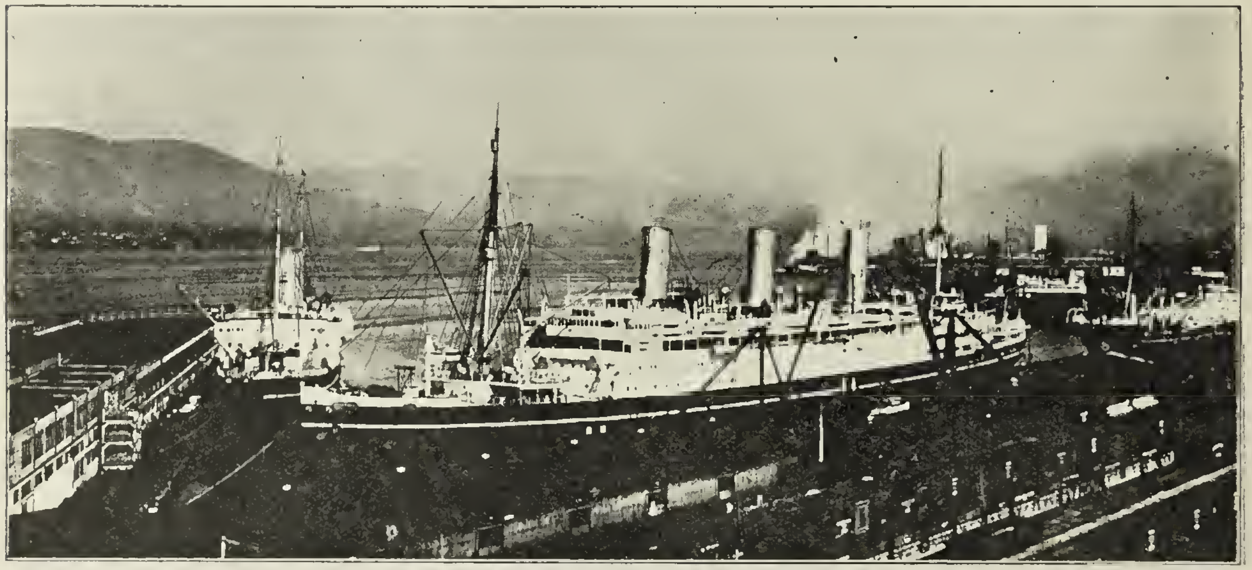
The idea of reciprocity between Canada and the United States first began to take shape when that Colony was deprived of the preference it had hitherto received in the British market by the abolition of the preferential duties in 1852. Canada sought an outlet for her goods in the United States of America, and in 1854 the Elgin-Marcy Treaty giving reciprocity between the two great countries of North America was signed. It lasted until 1866, when the treaty could not be renewed owing to the development of the industries of each country on exactly the same lines. Since this period the Imperial spirit has been made manifest throughout Canada and the American Reciprocity tendency has almost disappeared, but in its place has come a desire for closer commercial relationship with other parts of the great Empire. Although the Canadian Customs Tariff is protective, there is, however, a substantial preference in favour of merchandise from the British Isles and from many of the British Dominions and Colonies.

Canada was the first of the British Dominions to grant a trade preference to the products and manufactures of the United Kingdom and reciprocating British Dominions and Possessions of 12½ per cent. from April 23rd, 1897, which was increased to 25 per cent. from June 30th, 1898, and to 33⅓ per cent. from June 30th, 1900. It was enacted in the Customs Tariff Act, 1907 (which provided for a tripartite tariff scale, viz., the British Preference, the Intermediate and the General), that the Government may, by Order-in-Council, extend the provisions of the British Preferential Tariff to any British country, and the provisions of the Intermediate Tariff, in whole or in part, to any British or foreign country that grants benefits satisfactory to the Governor in Council. Prior to 1907 Canada had no bargaining machinery of this kind. Since 1907 the British Preferential Tariff is practically 33⅓ per cent. less than the General Tariff, while the Intermediate Tariff is somewhat lower than the General.

The British Preferential Tariff is applicable to the products and manufactures of practically every British Dominion and Possession. For years, however, Canada has granted free trade to Newfoundland in fish and fish products. To-day Canada has trade treaties and agreements with Australia and the British West India Colonies as well as the following foreign countries :—Belgium, Cuba, Czecho-Slovakia, Estonia, Finland, France, Hungary, Italy, Japan, Latvia, Lithuania, Netherlands, Portugal, Roumania, Serb-Croat-Slovene Kingdom and Spain.

It is interesting to note that : "When the British Preference became effective in 1897 Canada's total imports from the United Kingdom amounted to only $29,401,000, compared with an import in 1887 valued at $44,741,000, and in 1873 at $67,997,000, the decrease in 1897 compared with 1887 amounting to $15,340,000, and with 1873 to $38,596,000. From 1873 to 1897 imports from the United Kingdom decreased $38,596,000, or 56.7 per cent, while from 1897 to 1929 they increased $164,620,000, or 559.9 per cent." *

The trade of Canada reflects, as perhaps in no other single medium, the gradual growth in the productive system. From an isolated and dependent community Canada has become a nation trading with practically every



CANADA, VANCOUVER HARBOUR *Photo. C.P. Rly.*

One of the fine Empress Liners lying alongside the Quay

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* Dominion Bureau of Statistics, Ottawa.

INDIA, KARACHI HARBOUR *Photo, The Hall Lines*
The Punjab Boat Train arriving at the Quayside

country of the world, exceeding many of the oldest and largest countries in trade standing. Canada leads the world in the exports of wheat, printing paper, nickel and asbestos; occupies second place in the exports of wheat flour and third place in the exports of wood pulp, as well as occupying a very high place in the exports of many other staple products such as lumber and timber, automobiles, fish, copper, barley, cheese, raw furs, whiskey, meats, rubber tyres, farm implements, pulpwood, cattle, raw gold, silver, lead, rye, oats, rubber footwear, leather and hides. In volume of trade, Canada also stands high among the leading nations of the world. From 1913 to 1928 she advanced from eighth position in imports, tenth in exports, and ninth in total trade to fifth position in imports, exports and total trade, being exceeded only by the United States, United Kingdom, Germany and France.

Commerce of the Indian Empire

Among the nations of the British Commonwealth India comes next to the United Kingdom and Canada in volume of oversea trade. The total average value has reached the high figure of 442 millions sterling per annum, made up of imports valued at £203 millions and exports at £239 millions. The treasure purchased yearly averages about £41 millions (see *Finance*), leaving the actual value of the merchandise and Government stores imported yearly at £162 millions. The majority of the imports consist of manufactured goods, such as cottons, machinery, sugar, iron and steel, railway plant, mineral oils, hardware, coal and coke. The exports largely consist of raw cotton, jute, grain, pulse, flour, tea, seeds, cotton yarn and manufactures, hides, leather, metals and ores. The trade with the British Isles averages in annual value £142 millions, composed of imports £84 millions and exports to the United Kingdom £58 millions.

During the last half-century the commerce of India has not only grown enormously, but it has changed its character. In 1834, the earliest record available, the oversea commerce amounted in value to little more than £14,000,000, and consisted of valuables and curiosities of small bulk; with the opening of the Suez Canal in 1870 the carriage of bulky goods became commercially possible, for the hitherto long sea voyage round the Cape of Good Hope had tended to seriously diminish the profits of East Indian trade.

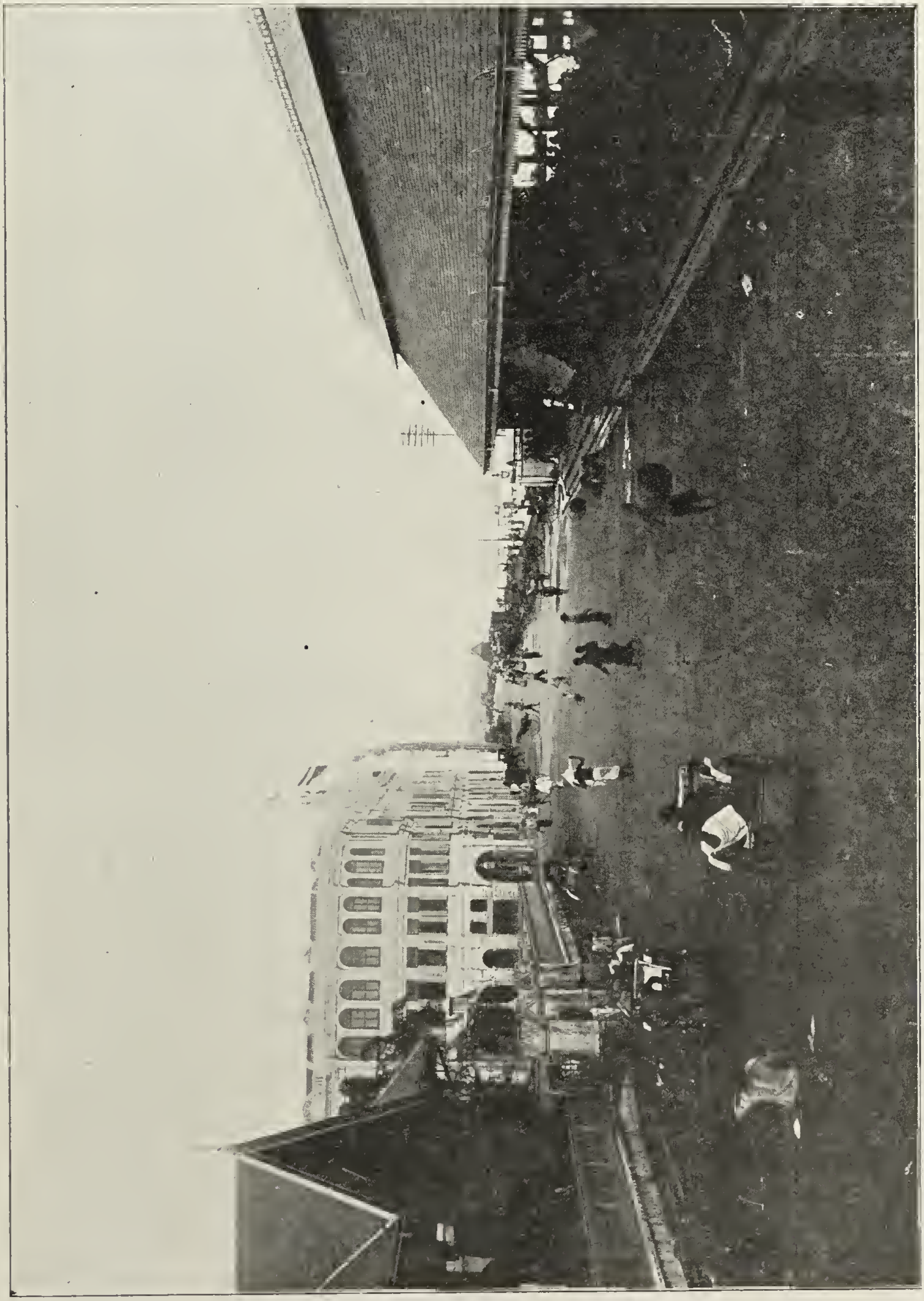
In 1863 the total foreign commerce did not exceed £40,000,000 in annual value. In 1888 there were over 7,000 sailing vessels engaged in the seaborne commerce of India, with a tonnage of less than half that possessed by the 6,000 steamships of the present day, which have a total of over 13,000,000 tons. The value of the foreign trade has risen to the high figure of £442 millions sterling.

India has become one of the world's greatest producers of raw material; notably grain, jute, cotton and tea, which are furnished in large quantities. Half a century ago, heavy merchandise, especially raw material, could not be conveyed from the interior of the country to the sea coast, except where rivers offered the necessary and cheap means of transport—and the only two ports possessing this facility were Calcutta and Rangoon. There were then only 300 miles of railway in India compared with the present 39,000 miles. It will thus be seen that the foreign commerce of India, which may be said to have commenced with the discovery of the Cape route (see under INDIA, *History*), received its first impetus from the opening of the Suez Canal in 1870, and that it has changed its character and enormously increased in bulk and value with the extension of the railway system and the employment of the steamship.

The oldest trade-route between India and the Mediterranean Sea was through the passes of Afghanistan, and the mode of transit was the caravan. Then in later years the overland journey was shortened by conveyance by sea to Aden or the Persian Gulf. During the Roman Empire the navigation of the Red Sea made Egypt the rendezvous for Indian merchandise. The Turkish dominion over Egypt and Mesopotamia in the Middle Ages closed the Persian Gulf and the Red Sea routes, and it was then that European navigators discovered the ocean passage *via* the Cape of Good Hope, and opened the new era in the foreign commerce of India.

The principal countries participating in India's foreign trade, together with the percentage of the total imports and exports, are, the British Isles (exports to India just under 40 per cent. and imports from India about 25 per cent.); United States (9 and 11); Japan (7 and 14); East Indies (6 and 1); Germany (7 and 7); Belgium (2 and 3);

SINGAPORE HARBOUR FROM THE ESPLANADE *Photo, Harold J. Shepstone*



RAFFLES QUAY, SINGAPORE

Capital of the Straits Settlements, and one of the most important ports in the world

Photo, Harold J. Shepstone

China (1 and 4); and the Straits Settlements (2 and 3). The chief imports from foreign countries are sugar, silk, oils, hardware, provisions, liquors, spices and glass. The chief exports to foreign countries consist of cotton manufactures, opium, silk manufactures, wood manufactures and provisions. The Indian *trans-frontier* land trade, which is mostly conducted with Nepal, the Shan States and Afghanistan, averages in annual value about £28,000,000, generally with an excess of imports amounting to £2,500,000.

COMMERCIAL LEGISLATION.

The influences which have guided the somewhat irregular customs tariff of India are: (1) the desire of the United Kingdom that certain manufactured goods (cotton and metal manufactures, being principal exports from U.K. to India) should enter India *almost* free of duty; and (2) the idea generally prevalent in India itself that the judicious taxation of all imports is the best means of raising revenue and stimulating local manufacture. The general customs rate was, after the Mutiny, raised from 5 to 10 per cent. During the next twenty years it was steadily reduced to about 5 per cent., and abandoned altogether in 1882.

Twelve years later, in 1894, a small duty was again levied, and this has since been continued, but, after negotiations with the British Imperial Government, it was decided that cotton yarns should enter India free, and that imported cotton cloth should only be taxed at the nominal rate of 3½ per cent., and an excise tax of the same amount levied on the home-made produce. In 1916 the duties on nearly all classes of imports were raised to a general minimum of 7½ per cent., but cotton goods were, however, again left out of the list.

In 1921 the charges on imports were raised to 11 per cent. to meet the interest on war expenditure, and in 1922 they were again increased, this time to 15 per cent. The exceptions were, cotton twist, yarn and thread with a duty of 5 per cent., and other cotton goods 11 per cent. (except yarns and textile fabrics—15 per cent.). To counteract the effect of this charge on British imports an excise duty of 3½ per cent. was levied on cottons manufactured in the Indian mills. This gave the Indian Government the revenue it required, protected the home industry from crushing competition, and, at the same time enabled English manufacturers to still sell many millions of pounds' worth of cotton goods in India.

The duty on arms, ammunition and certain luxury articles, such as silver goods, was raised to 30 per cent., cigars and cigarettes 75 per cent., sugar 25 per cent., and machinery, iron, steel and railway material only 10 per cent. (largely British imports). There are export duties on rice, tea, raw jute, hessians, jute sacking, hides and skins. There is, however, an Imperial preferential rebate on the last of these articles when they are exported to any portion of the British Empire. The revenue derived from customs duties exceeds £32,000,000 a year.

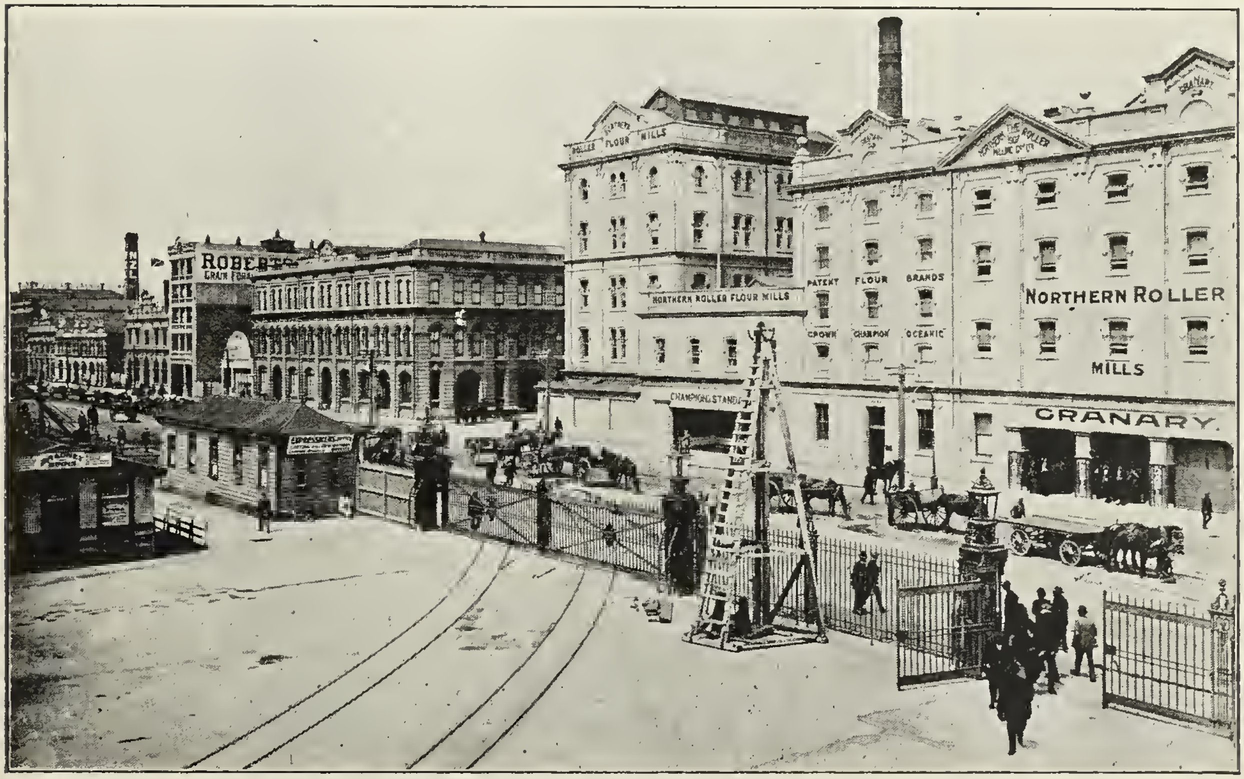
Commerce of the Irish Free State

The total overseas commerce of this, the youngest member of the British Commonwealth averages about £100,000,000 a year. The imports account for about £61 millions and the exports for £42 millions, which represents £14 per head of the *total* population. The trade with Great Britain is valued at about £75 millions, divided between imports £40 millions and exports to Great Britain £35 millions. The volume of trade with Northern Ireland amounts in average annual value to just over £12 millions with imports at £6½ millions and exports to the neighbouring State of £5½ millions.

The products of agriculture and the pastoral industry account very largely for the volume of exports, although some of the great manufacturing industries of Dublin and Cork are of almost equal importance. There is a small coal mining industry, employing about 600 people, which yields just under 80,000 tons of coal a year. The fisheries produce about £500,000 per annum, and there is a rapidly growing tourist traffic to the famous beauty spots of the West.

Commerce of New Zealand

The oversea commerce of the Dominion has increased five-fold since the beginning of systematic records in 1898. It now amounts in average annual value to over £109,000,000. The exports account for £56,000,000 and the imports for £53,000,000,



QUAY STREET, AUCKLAND, NEW ZEALAND

thus leaving a balance of approximately £3,000,000 on the export side. About 61 per cent. of the foreign commerce of New Zealand is with the British Isles, the remainder being principally with the United States, Australia, Canada, India, Fiji, Japan, France and Germany. That with the United States averages about £14 millions a year, but is of a very one-sided character; the imports from America accounting for nearly £10 millions, and the exports to that country for only £4 millions sterling. With this exception New Zealand confines the bulk of her oversea trade to countries of the British Commonwealth. The foreign trade per head of population, excluding the 63,671 Maoris, has now reached the high figure of over £75. The following table shows the principal imports and exports together with their average annual values :—

IMPORTS.

Textile piece goods	4½	millions sterling.
Machinery	4	,, ,,
Oils	4	,, ,,
Iron and steel	2½	,, ,,
Motor vehicles	5	,, ,,
Sugar	1¼	,, ,,
Apparel	3	,, ,,
Paper	1½	,, ,,
Drugs and chemicals	1¼	millions sterling.
Tobacco and cigars	1½	,, ,,
Hardware	1¼	,, ,,
Boots and shoes	1	,, ,,

EXPORTS.

Wool	12	millions sterling.
Butter and cheese	15	,, ,,
Frozen meat	9	,, ,,
Skins and hides	2	,, ,,

COMMERCIAL LEGISLATION.

The following reciprocal provisions have been made in the Customs Duties Act. Where any country, being part of the British Dominions, reduces or abolishes, or proposes to do so, the duty on any product or manufacture of New Zealand, the Governor is authorised to enter into an agreement to reduce or abolish the duty on any articles the produce or manufacture of such country to an extent that the estimated revenue so remitted shall equal as nearly as possible the remission by that country. Such agreements, however, require ratification by Parliament. Similarly, where any country not being part of the British Dominions, reduces or abolishes, or proposes to do so, the duty on any product or manufacture of New Zealand, the Governor is authorised, subject to or by virtue of a treaty with His Majesty, to negotiate for an agreement to reduce or abolish the duty on any articles the produce or manufacture of such country to an extent that the estimated revenue so remitted in New Zealand shall equal as nearly as possible what is remitted by that country, subject to Parliamentary ratification.

A treaty is at present in force between New Zealand, Canada, the Union of South Africa, and Southern Rhodesia, by which certain concessions as to tariff rates are made on both sides. In 1903 the Legislature of New Zealand, with the object of encouraging trade with other parts of the British Empire, imposed a *surtax* upon certain goods not being the produce or manufacture of some part of the British Dominions. This may be regarded as the small beginning of what, under the tariff of 1907, came to be a substantial protection to the British producer. In 1907, while the general tariff was under revision, some changes were made in the preferential duties of 1903, and the number of articles subject to the surtax greatly increased, until at present 193 of the total of 483 items on the tariff came under this head.

The ordinary *ad valorem* duty on goods imported into New Zealand ranges from 10 to 20 per cent., and the surtax on specified goods of foreign manufacture from 10 to 12½ per cent. *ad valorem.*

There is a small export duty on gold, levied only in the North Island, and a general export duty on timber. The importation of opium in any form suitable for smoking or in any but medicinal form is strictly prohibited.

Commerce of the Union of South Africa

For many years the oversea commerce of South Africa has been steadily increasing, and an average taken over almost any five-year period will show that the balance of trade is, generally, on the export side. From 1914–18 the foreign commerce (especially exports) suffered severely in the general decline due to the economic chaos caused by the Great War. In this respect South Africa suffered as much, if not more than any other British Self-governing Dominion, owing, partly, to the campaigns in South-West and in East Africa, the decline in the export of diamonds and the temporary closing-down of many mines, and to the absence of ocean transport. Since the cessation of hostilities, however, the South African oversea trade has been steadily rising, and has now reached a far higher figure than in any pre-war year.

The total oversea trade of the Union of South Africa has an average annual value of £153,000,000, made up of imports, £73,000,000 and exports, £80,000,000 (exclusive of specie). The principal imports, together with their average annual values are as follows :—

Cotton manufactures -	2½	millions	sterling.
Food and drink - -	7½	,,	,,
Machinery - -	4	,,	,,
Apparel (including hats and caps) - -	4½	,,	,,
Iron and steel - -	2	,,	,,
Oils - - -	3	,,	,,
Hardware - - -	3¾	,,	,,
Electrical wire and fittings	2½	,,	,,
Timber - - -	1¾	,,	,,
Woollen manufactures -	2	,,	,,
Agricultural implements -	1½	,,	,,
Haberdashery - -	1½	,,	,,
Leather manufactures -	1¼	,,	,,
Bags - - -	1¼	,,	,,
Drugs and chemicals -	1	,,	,,

The principal exports are :—

Wool - - -	17	millions	sterling.
Gold - - -	31	,,	,,
Diamonds - - -	10½	,,	,,
Other minerals - -	2½	,,	,,
Coal - - -	3	,,	,,
Skins and hides - -	3½	,,	,,
Maize and maize meal -	1½	,,	,,
Bark (wattle and extract)	1	,,	,,
Mohair - - -	¾	,,	,,
Fruit - - -	1	,,	,,
Sugar - - -	¾	,,	,,

The trade with the United Kingdom averages : exports to U.K., 48 millions, equalling 60 per cent , and imports from the U.K., 35 millions, equalling about 48 per cent. The commerce with the other parts of the Empire consists, principally of imports from Australia, 2 millions sterling, Canada 2 millions, India 2½ millions, Rhodesia 2½-3 millions, causing the South African trade within the Empire to average : imports, 63 per cent., and exports 72 per cent.

Among foreign countries the United States comes an easy first, importing into South Africa merchandise to the average annual value of £11,000,000 ; Germany comes

A CORNER OF THE DOCKS, CAPE TOWN

next with £5,000,000; then France, Belgium and Sweden. The United States, however, takes only 1½ millions' worth of South African produce each year, France takes 5 millions, Germany 4 millions, and Belgium 3 millions.

There is a Customs Union, established in 1903-1908, between the Union of South Africa, Rhodesia, Basutoland, Swaziland and the Bechuanaland Protectorate, whereby a uniform charge is made on imports into any part of the Union. There is a rebate of the whole or a part of the Customs Duty in the case of goods of British growth or manufacture, and of goods from British Colonies which grant reciprocal privileges.

In 1925 a new tariff was introduced especially to benefit the industries of South Africa. There are now two rates in force which apply to many classes of goods. The merchandise coming from a country granting preference to South Africa, enters the Union under the lower rate (this rate is levied to provide revenue and (*or*) to protect South African industries).

Under this latter arrangement Empire preference is secured, but it was the refusal of the British Government to give effect to the recommendations of the Imperial Conference of 1924 which caused the degree of preference accorded in the new Union Tariff to be somewhat reduced. In 1925, however, the British Government decided to give effect to the recommendations of the Imperial Conference and grant special privileges to Empire products, this belated agreement met with a certain response from the Union of South Africa, and in the first year resulted in nearly £400,000 in duties on United Kingdom products being saved by the rebate.

Commerce of Southern Rhodesia

The oversea commerce of Southern Rhodesia totals between 11 and 12 millions sterling per annum in average value; the imports accounting for £5,600,000 and the exports for £5,900,000. About 74 per cent. of the imports come from the British Empire. The remainder are obtained very largely in the Union of South Africa (entering duty free) smaller values come from the United States (15 per cent.) and Germany (2 per cent.). Rhodesia's best customer is, naturally, Great Britain, which takes over £3,000,000 worth of produce every year. More than half the total oversea trade is carried on *via* Beira (Portuguese East Africa).

Rhodesia joined the South African Customs Union in 1903, and is subject to the general tariff of the Customs Union, with certain modifications designed to meet the particular conditions of the country. There is a small list of goods on which duty is entirely suspended. This list is changed from time to time, but in recent years has contained only two items—fresh, chilled, and frozen meat, and non-potable spirits. The most notable modification of the general tariff is governed by a clause which, through the instrumentality of the late Mr. Rhodes, was embodied in the Constitution of Rhodesia in 1898. By this clause, known as the Rhodes Clause, it is provided that the Customs duty levied on any articles imported into Southern Rhodesia, being the produce or manufactures of any part of the British Empire, is not to exceed the duty in force in the Cape Colony at the time the Clause was promulgated. In the case of nearly every duty provision is made for a preference in favour of the products and manufactures of the United Kingdom and British Possessions. On goods taken from United South Africa into Rhodesia, or *vice versa*, no duties are levied (except on spirits).

HONG-KONG FROM THE PEAK *Photo, C.P. Rly.*
One of the busiest ports-of-call in the world

Commerce of Newfoundland

The total oversea trade of this, the oldest Dominion of the British Empire, averages about 54,600,000 dollars a year (dollar at par=4s. 2d.), made up of imports, 30,000,000 and exports 24,600,000. The trade with the British Isles is valued at 12,600,000 dollars, divided between imports 6,200,000 and exports to the United Kingdom 6,400,000 dollars. Canada has a total trade valued at 14,000,000 (12 millions being for imports

BAGS OF COCOA FROM THE GOLD COAST

(At Bournville, England)

from Canada); then comes the United States with 13,500,000 dollars (9 millions being for imports from U.S.A.), with Portugal, 2,600,000 (of which 2,500,000 is for exports—largely dried fish—to Portugal) and Spain, 3,550,000 (3,400,000 exports to Spain).

The principal imports are flour, coal, textiles, provisions and hardware. The exports consist, very largely, of fish, cod and seal oil, paper and pulp, sealskins, copper and copper ore, iron pyrites and other minerals.

Newfoundland has a considerable fishing and shipping industry. The mercantile fleet consists of 169 steamships (mostly small fishing vessels and carriers) with a total tonnage of about 30,000, and over 2,900 sailing craft. The ships entering and clearing from Newfoundland ports have an average annual tonnage of 2,000,000, of which two-thirds are British.

The oversea commerce of the Crown Colonies, Protectorates and Allied States will be found under the respective territorial headings.

COTTON GROWING

EMPIRE FIELDS

THE LANCASHIRE INDUSTRY.

IN order to realise the importance of an adequate supply of Empire-grown cotton it is necessary to be in possession of a few facts concerning the cotton-spinning industry of Great Britain, which has its centre in Lancashire. There are, in the British Isles, about 57,000,000 spindles, requiring annually 900,000,000 pounds of raw cotton to keep them fully employed. The cost of this raw material (including cotton used for other purposes) amounts to £80,000,000 a year. Only one-quarter of these colossal imports is required to supply the home demand for cotton goods, the remaining three-quarters are for conversion into manufactured goods for export—in the form of piece goods, yarns and lace. The average annual production of these staples of England's oversea trade is, from 3,000,000,000 to 4,000,000,000 yards and from 146,000,000 to 151,000,000 lbs., respectively. The total value of all the cotton exports is approximately £176,000,000 a year, of which sum about £78,000,000 is paid away for imported raw cotton to maintain this vast industry. The remaining £98,000,000 is very largely expended in the payment of wages to the many thousands of men and women employed in the production and transport. About 9 millions of people in the United Kingdom are dependent on the cotton trade.

COTTON SUPPLIES.

The question of vital importance is, where does the £78,000,000 a year go to? The United States supplies Great Britain with raw cotton to the average annual value of over £45,000,000, Egypt supplies about £20,000,000 and only about £8,000,000 comes from other portions of the Empire. The American cotton fluctuates very much in regard to price, owing to speculation, and this influences for good or bad the work of the Lancashire mills, which produce so much wealth for the Empire. Moreover, a destructive insect is slowly but surely making great inroads into the American crops, and the quantity in future years is uncertain. From these few facts the importance of stimulating the cultivation of cotton within the Empire will be apparent. To promote this object a levy of sixpence per bale on all cotton purchased by British cotton spinners has been made since 1921. The proceeds are used entirely for the purpose of increasing the cultivation of cotton within the Empire.

AMERICAN COTTON.

For many years the Southern States of America supplied the needs of all the Western and half the Eastern world. A British Government Memorandum (Cd. 5215) states that, " about 1902 the interest of the British Colonies in cotton growing was suddenly revived. Lancashire was then suffering severely from violent fluctuations in the price of cotton, caused partly by shortage in the world's supply, and partly by American speculation based on that shortage. The Lancashire mills ran short time for considerable periods, and it was estimated that manufacturers, spinners, and operatives in one year alone suffered a direct loss of £2,000,000, apart from the losses entailed

COTTON PICKERS AT WORK IN AFRICA

on merchants and others indirectly interested in the cotton trade. The question was perforce raised whether the British Dominions could not be made to yield within a reasonable time a sufficient supply of cotton to reduce the chances of such crippling fluctuations in price, and eventually to satisfy, from Imperial sources, Lancashire's main demand for raw material.

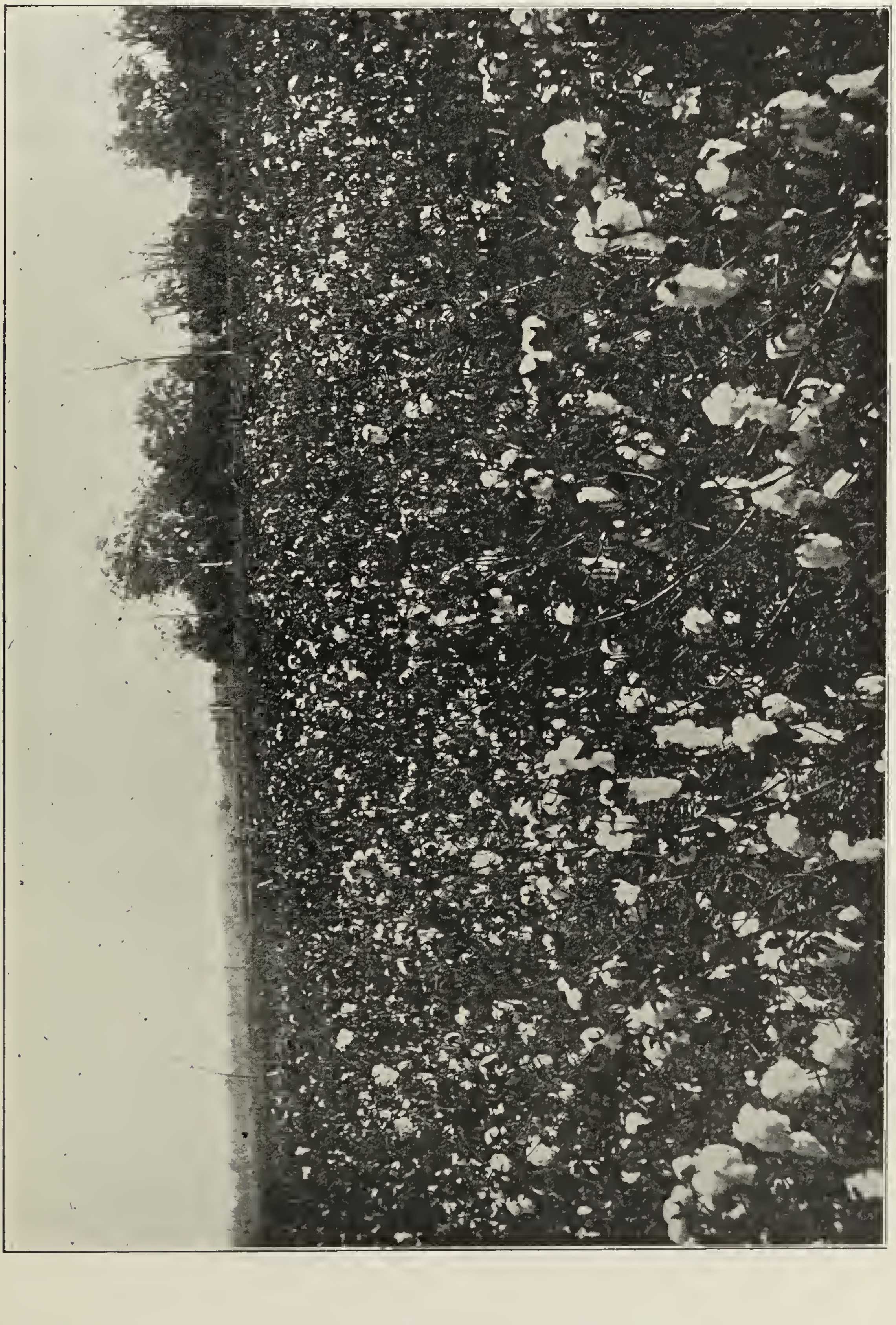
" The chief impulse came, as was only natural, from Lancashire. The British Cotton Growing Association was founded in 1902, and incorporated by Royal Charter in 1904, for the purpose of promoting and extending the growing and cultivation of cotton in the colonies. Its charter did not exclude operations in India and Egypt." So important has this organisation become that no account of the cotton-growing industry of the British and Indian Empires would be complete without direct and almost continual reference to the part it has played in founding and organising the cotton-fields and produce of the Empire. The work of the Association may be divided into three periods—(1) Inquiry ; (2) Experimental ; (3) Development.

DEVELOPMENT OF EMPIRE FIELDS.

The first and second periods are over, for there is no part of the Empire capable of producing cotton in any quantity which has not been fully inquired into by the Association, and in many cases experimental work has actually been carried on. The third and perhaps the most difficult stage—that of development—has been reached. During the first two periods the inquiries and experiments were extended throughout the greater part of the British Empire, and it was decided that, as far as any large results were concerned, the countries which offered the best prospects were :—

India.
Uganda and Nyasaland.
West Africa.
Egypt.
Sudan.
The West Indies.

Other parts of the Empire there are where cotton can be grown, but the Association decided that their main energies must be concentrated on those countries, which close investigation and experiment had proved the most promising.



A COTTON FIELD IN THE DAWSON VALLEY QUEENSLAND

Photo, Australian Government

INDIAN COTTON FIELDS.

It is held by many, and with some justification, that India offers the best prospect of large and quick returns. In 1902-3 the Indian crop amounted to 3,855,000 bales, and had increased to 5,197,000 bales (400 lb.) five years later. There was a falling back in the next two years, but in 1909-10 the crop touched the record figure of 5,317,000 bales, only, however, to fall back again in the following years. In 1913-1914 it rose to over 6,000,000 bales, but dropped back to an average of 5,000,000 in recent years. It will be seen at once that the fluctuations are very large, as must always be more or less the case with agricultural crops, which are naturally dependent on the vagaries of the weather.

There is, however, one serious disadvantage connected with Indian cotton, and that is the fact that the bulk of it is far too short for anything but the more coarse yarn, and not one Lancashire spinner in a hundred could make any use of Indian cotton. It is principally used on the Continent, in Japan, and in India itself. At the same time it must not be forgotten that if there is an increase in the quantity of cotton produced in India, it will to a certain extent reduce the demand for long-stapled cotton. The average annual output of Indian cotton is now 2,200,000,000 lb., and the quantity exported each year is valued at about £37,000,000.

EGYPTIAN COTTON FIELDS.

Although a separate State, Egypt is in alliance with the United Kingdom and forms one of the group of nations making the British League. It must, therefore, be included in this survey. The average annual value of the cotton exported is approximately 57-62 millions sterling, but depends entirely on the success or failure of the crop. In good years the exports to Great Britain average in value about £32 millions and in medium years £20 millions.

SUDANESE COTTON FIELDS.

In the Sudan the area under cotton is about 240,000 acres, from which the average yield is 65,000,000 lb. (unginned). The Gezira Irrigation Extension scheme will, in a few years, increase the area available for cotton-growing by at least another 50,000 acres. This is of considerable importance because the Gezira has been described by experts as "one of the finest cotton propositions in the world," and with an increase in the water supply, if the Lake Tsana Dam (Abyssinia) is erected, there is no limit to the area which can eventually be brought under cultivation. Undoubtedly the Sudan will become the great cotton-producing State of the Empire. (See *Sudan*.)

WEST INDIAN COTTON.

The West Indian Islands have long been famous for the production of Sea Island cotton, which is largely used in lace-making. The total annual crop averages about 10,380 bales, or 4,152,000 lb., made up of about two-thirds of *Marie Galante* cotton and one-third of the well-known *Sea Island* variety.

WEST AFRICAN COTTON FIELDS.

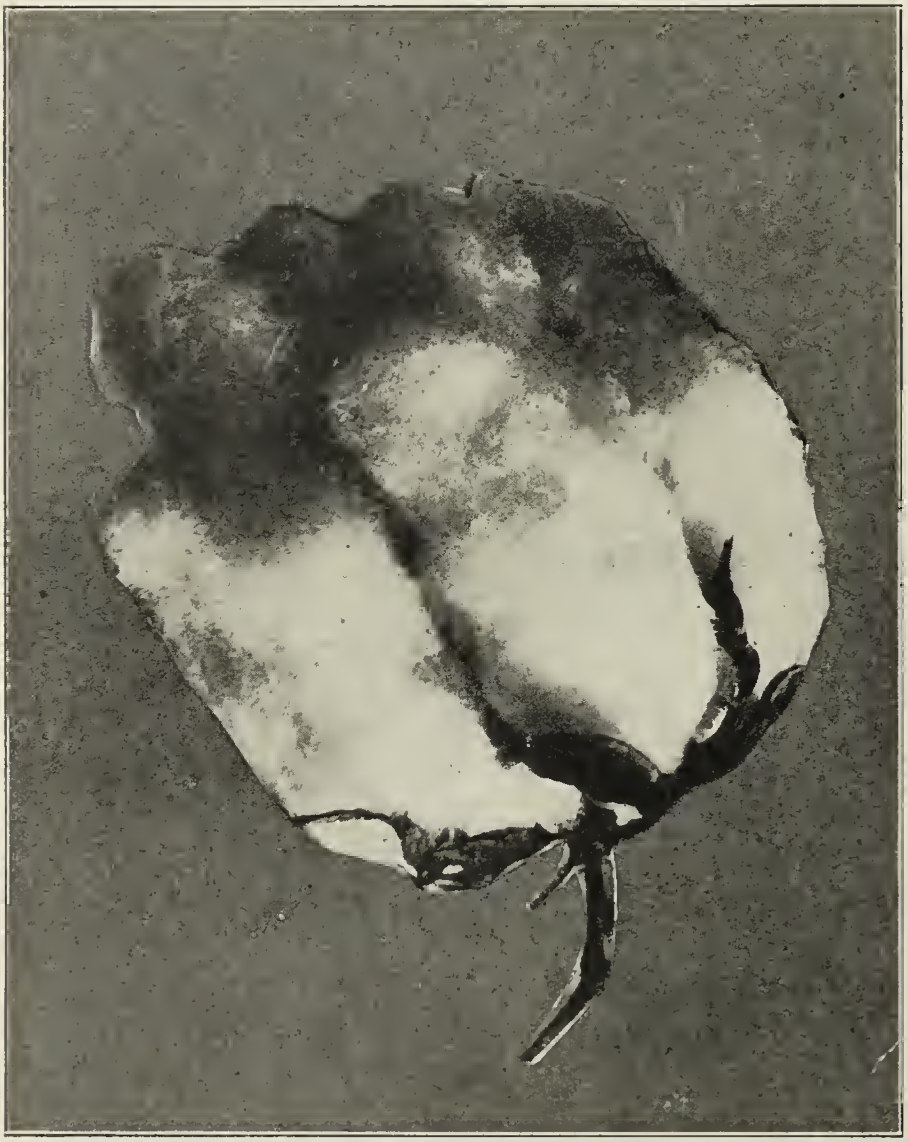
In West Africa the Cotton Growing Association were the pioneers of this industry, and it would be impossible to detail the work carried on in these vast tropical countries in investigation and experiment. Cotton as an article of export was non-existent, and there was no one to whom to apply for definite information as to where cotton could or could not be grown, and it was impossible to say where good results might be expected. Everything had to commence at the beginning. Owing to the climate the European cannot work in the open in West Africa, and he also has to return on leave at frequent intervals to recover his health. For this reason the Association decided to devote their principal energies to establishing cotton growing as a native industry, and it is almost a truism to state that, generally speaking, *cotton is a black man's crop*.

The one great difficulty in West Africa, and indeed throughout Africa generally, is the difficulty of transport. African rivers with the exception of perhaps the Nile and the Congo, are generally too low for transport at the time when cotton is coming forward, or else they are broken up by rapids.

The results of the efforts made by the Association to establish a native cotton-growing industry in West Africa have been somewhat disappointing. In the Gambia it was a failure, as the natives preferred their old industry of growing ground nuts. In Sierra Leone the rainfall was too heavy for cotton to be a success. In the Gold Coast the quality was excellent, but apparently cocoa

READY TO BE PICKED
Fully developed Cotton Bolls

was more suited to the climate. Work is, however, still being carried on there, and also in the Northern Territories, but the quantity of cotton produced is infinitesimal. In most parts of the Eastern Province of Nigeria the rainfall is far too heavy for cotton, and had it not been for the excellent quality of the Ishan cotton—the best grown in West Africa—work would have ceased in that province. In the Lagos province the results have been most satisfactory, and the crop averages about 12,000 to 13,000 bales. In Northern Nigeria a large quantity of cotton is grown, but owing to the demand for local consumption the ruling price prohibits its export. Sooner or later, however, European-made clothes will displace the native manufactures. The average annual production of cotton in British West Africa ranges from 20,000 to 50,000 bales.



A COTTON BOLL

KENYA AND UGANDA COTTON FIELDS.

The results obtained in the Kenya Colony have been disappointing. The government commenced some experimental plantations, and the Association sent out a small ginning plant to Mombasa. Work was eventually handed over to the British East Africa Corporation, but the plantation was not a success and had to be abandoned. Several other similar enterprises were equally un-successful. This was partly due to the unfavourable climatic conditions, though it is quite possible that better results might be obtained by trying to establish cotton-growing as a native industry. Some fair results have been obtained with native cultivation in the Kisumu district, adjacent to Lake Victoria.

Not a little of the maritime trade of Kilindini (Mombasa) and the revenue of the Uganda Railway is, however, derived from the carriage of cotton and cotton-seed to and from Uganda, together with the goods to pay for these. The results obtained in Uganda, which has long been famous for its cotton, are quite the largest and in some ways the most satisfactory of any new cotton field in the Empire. The first record of exports of cotton from Uganda was in 1904, when fifty-four bales were shipped. Since then the industry has advanced by leaps and bounds. In 1907 it had risen to 2,000 bales, in 1912 to 50,000 bales, and the present output is about 185,000 bales of 400 lbs. each. It is, however, confidently anticipated that the production of cotton in Uganda will continue its rapid increase, although a fall in the price during 1927 checked the previous rapid increase. Railways have been constructed from Jinja, on Lake Victoria (62 miles) to Namasagali, on the Nile below the rapids, for transporting the cotton output of the regions round Lake Kioga. There is also a railway from Port Bell to Kampala (7¼ miles). Great improvements have been made in the transport facilities on the Uganda Railway and in the steamboat services on the Great Lakes. It is estimated that several million acres in Uganda are suitable for cotton. (See *Uganda.*)

NYASALAND COTTON FIELDS.

Nyasaland was no exception to the general rule, that one of the greatest difficulties in establishing cotton growing in a new country is the absence of economical means of transport. In the early days cotton had to be conveyed, mostly in head loads, from Blantyre and elsewhere to the Shiré River. Thence it was conveyed by barge down to the Zambesi and to Chinde. Frequently for many months together river transport was impossible. At Chinde it was transhipped into ocean-going barges and conveyed to Beira, where it was loaded on to the ocean steamers. It is surprising that in the face of these difficulties any cotton was grown at all. A railway was first constructed between Port Herald and Chiromo, and the extension to Blantyre was completed in 1909. Later on arrangements were made for the extension of the railway from Port Herald down to Chindio, on the Zambesi (61 miles). This section, which entirely eliminated the difficulties of low water in the Shire River, was opened in 1915. The Transzambesia Railway from Beira to Mutarara, opposite Chindio, was opened in 1922, and affords through communication between the seaport of Beira and Blantyre, the capital of Nyasaland. A further extension to Fort Johnson on Lake Nyasa, is being built.

The quality of the cotton grown in Nyasaland is generally excellent, and as there are two types of country, the Lowlands and the Highlands, so also are there two types of cotton. Generally speaking, in the Highlands cotton of Upland American type has been most successful, and after several years of work the Nyasaland Upland type was definitely established in 1909. It is not very long in staple, but it is very clear and silky, and Nyasaland seed has given very good results in other countries. In the Lowlands, cotton of the Egyptian type has given the best results, and Abassi better than Affifi. It is, however, possible that even more satisfactory results might be obtained with long-stapled American cotton of the Allen's or Griffin type. The cotton production of Nyasaland has been steadily increasing since 1909, and now averages about 4,000,000 to 5,000,000 lb. a year.

TANGANYIKA COTTON FIELDS.

It is considered by the Empire Cotton Growing Association, who sent an expert to this territory in 1922, that cotton should quickly become the principal economic crop. The Germans were evidently of this opinion also, when they established cotton growing on a small scale in 1913. The yield was then about 2,000 bales, and, with the exception of the war period, it has steadily increased each year since. By 1921 it had reached 7,330 bales, and by 1926 this had increased to 22,000 bales. The average yield is rapidly approaching 30,000 bales, or 12 million pounds.

The establishment of adequate cotton-fields within the Empire is a slow business. Its importance will, however, be apparent when it is considered that out of the 900,000,000 pounds of cotton annually required to keep the mills of the British Isles fully engaged only about 200,000,000 pounds can possibly be obtained within the Empire, and that the actual imports from the colonies fall far below even this figure, owing to the increasing demands in the colonies themselves. These estimates exclude the Indian production because most of it is unsuitable for the requirements of the British mills and also the Egyptian output because this independent State is not a part of the Empire although in alliance with it.

CYPRUS

THE Island of Cyprus, which has an area of 3,584 square miles, is situated in the Eastern Mediterranean, about 60 miles distant from the coast of Asia Minor and 240 miles from Egypt and the Suez Canal. Until 1914 this island was an anomaly of Empire as, strictly, it was neither a British possession nor protectorate, but had been administered by Great Britain since 1874, when, by an Anglo-Turkish Convention, it was handed over to this country to be held as long as Russia retained Kars and Batoum. On the outbreak of war with Turkey, in November, 1914, the Island of Cyprus was, however, formally annexed to the British Empire.

AN ISLAND OF THE ANCIENTS.

Cyprus, to the ancients, was a land of love, sunshine and flowers. Its known history dates back seventeen centuries before Christ ; and from then to now it appears to have been a meeting place of the races and religions of the East and West. It has in turn been invaded and conquered no fewer than twelve times. First came the Egyptians, the Assyrians, the Greeks, and the Romans, under whom, in the fifth century B.C., the island prospered exceedingly, and, like Malta, was later converted to Christianity by St. Paul and St. Barnabas.

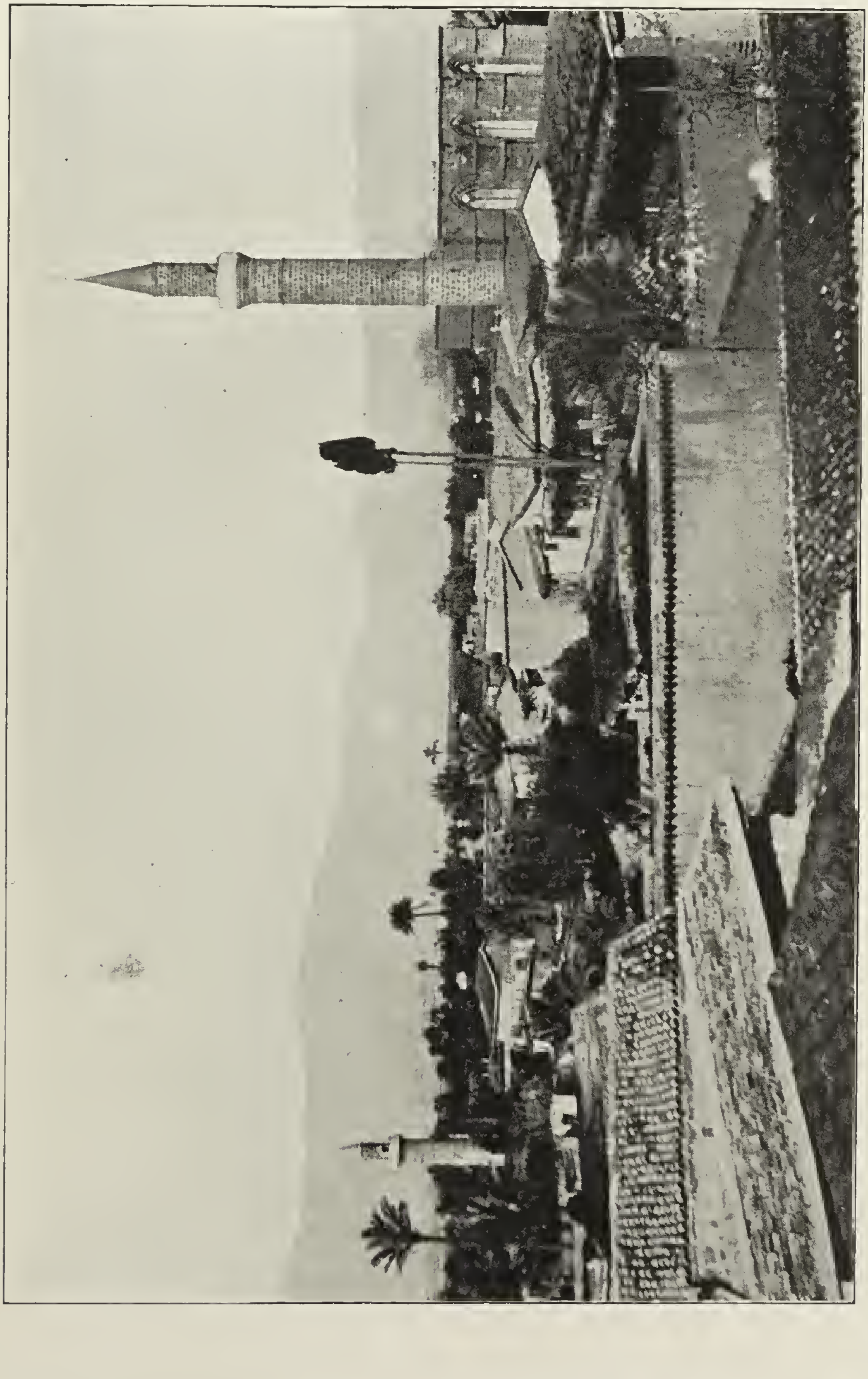
In 116 A.D. the Jews of Cyprus rose in rebellion and massacred many thousands of people, but were eventually crushed and expelled from the island by Hadrian. Curiously, although this happened over 1,814 years ago, and thousands of Jews, especially of Russian and Rumanian birth, have since resided for a time in the island, nearly all have left and there are now but a few hundred among a population of 310,714, of whom nearly 200,000 are Christians and 57,000 Mohammedans.

The second epoch in the history of Cyprus began with the decline of Roman power, when the island passed into the hands of the Byzantine Emperors, from whom it was wrested for a brief period by the Arabs. In 1191 Cyprus, for the first time, passed into English hands. Richard Coeur de Lion invaded and conquered it when on his way to the Holy Wars in Palestine, but tiring of his new possessions he sold it to the Knights Templars, the military order which preceded that of the Knights of St. John. Then came the partial dominion of the two great naval powers in the Mediterranean during the Middle Ages, the Venetians and the Genoese ; but in 1570 the island was again brought under Mussulman rule by a successful Turkish invasion, which was immediately followed by a series of frightful atrocities on the Christian population.

ENGLAND IN THE MEDITERRANEAN.

Although Cyprus was for a short time included in the Pashalic of Egypt it really remained a Turkish Vassal State until full control of the finances and administration was transferred to this country by the Anglo-Turkish Convention of 1874.

During the last forty years of direct Turkish rule a partial share in local government was given to the people by the institution of the " Vilayet System," and a degree of religious tolerance was accorded, sufficient to cause the island to become more settled ; but when taken over by Great Britain, bribery and corruption were rife among the judicial, revenue and police officials ; taxes were indiscriminately levied, and weighed heavily on the weakest shoulders ; crimes of



NICOSIA, CAPITAL OF CYPRUS

This view was taken from the roof of the Great Mosque, which is paved with the tombs of the Crusaders

Photo, Underwood

violence were of common occurrence, and the resources of the island were neglected.

The Russo-Turkish war may be said to have opened the third epoch in the history of Cyprus, for just previous to the signing of the Treaty of San Stefano the Sultan concluded with Great Britain the convention of 1874, which provided (among other articles) that Cyprus should be entirely administered by Great Britain, but that a portion of the surplus revenue of the island should be paid to Turkey. This annual tribute amounted to about £92,800.

Cyprus is administered by a Governor, appointed by the King on the recommendation of the Secretary of State for the Colonies, who is assisted by a Legislative Council composed of a majority of elected members with only a few officially appointed. The island is divided into three electoral districts, each of which returns one Mohammedan member, and twelve additional districts each returning a non-Mohammedan member. For administrative purposes the island is divided into six districts with a British Commissioner as the chief Executive Officer, under whose authority are the revenue, police, clerical and medical departments and officials.

The sources of revenue include the profits on the salt monopoly, customs and excise duties, property and income taxes, and royalties on the principal products. The construction of additional harbour and railway facilities has, however, stimulated the trade of the whole island. The revenue now averages about £650,000 per annum, and the expenditure £635,000. The Public Debt amounts to about £200,000, which has been contracted mainly for the construction of harbours, railways and irrigation works. It should, however, be remembered that previous to the Great European War an additional expenditure of over £90,000 a year was payable to the Sublime Porte, but this tribute had been withheld for some years previous to 1914 to cover the loss sustained by England and France in paying the balance due on the guaranteed Turkish Loan of 1855.

The imports from the British Isles have an average annual value of £422,000, and the exports to Great Britain and Ireland of £150,000. The total oversea trade of Cyprus now amounts in average annual value to about £2,675,000, made up of imports, £1,575,000 and exports £1,100,000.

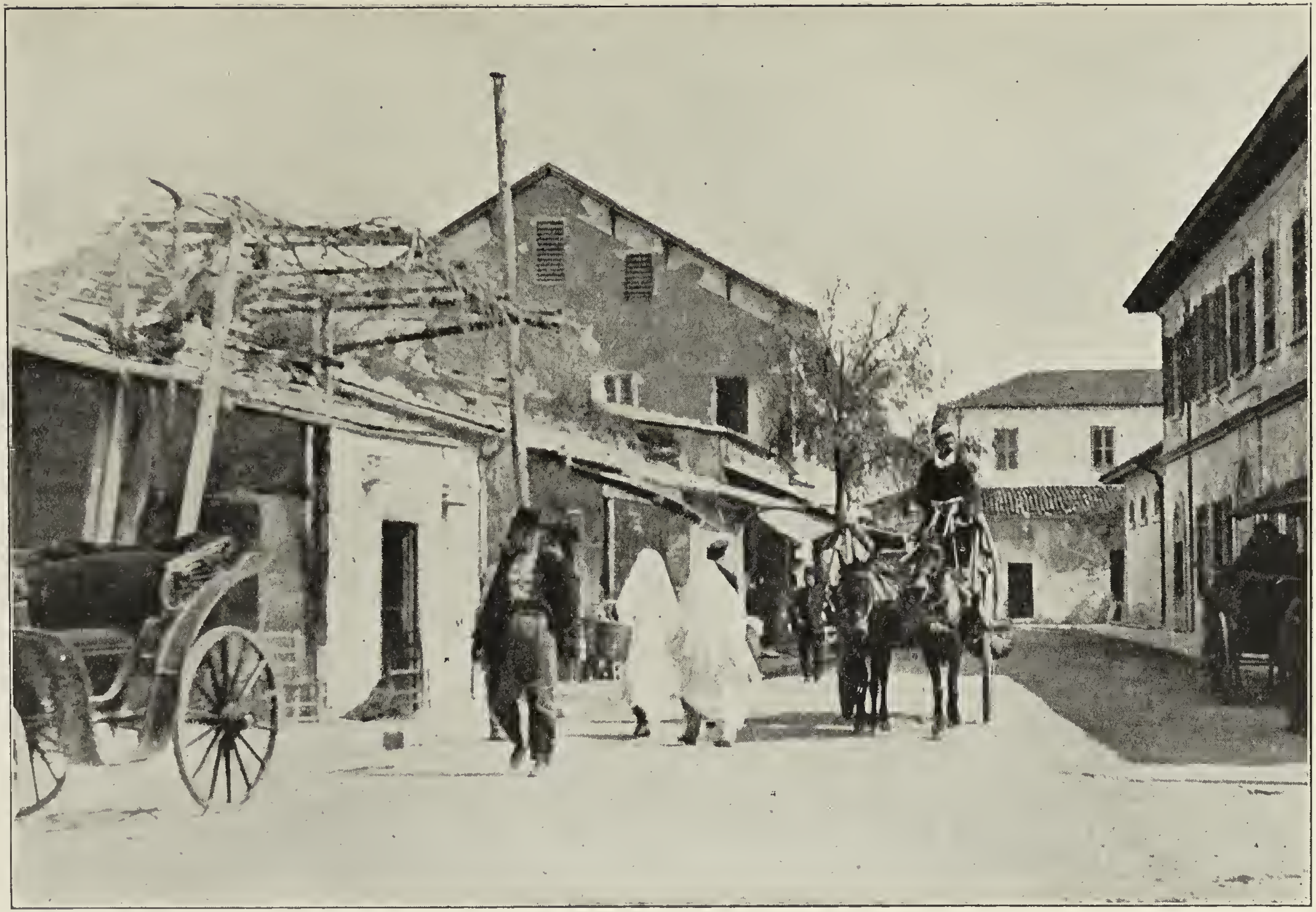
The principal productions of the island are various grains, cotton, olives, sesame, locust-beans, linseed, wool, hides, wine and spirits. Over 1,000,000 gallons of wine are annually exported from Cyprus, the principal portion going to Egypt. About 20,000 gallons of spirits are also exported, nearly all of which goes to Turkey. There is also a growing trade in grapes, oranges, pomegranates, silk, sponges, gypsum and salt. The fertility of the soil of Cyprus has been proverbial for centuries.

LAND AND PEOPLE OF CYPRUS.

The climate of this wonderful island of the Mediterranean, although extremely hot in summer, is neither tropical nor unhealthy—not that the two are synonymous, for there are many healthy places within the tropics. The low-lying portions of the island are somewhat feverish ; and the rainfall, which is often less than 20 in. in the year, is very small ; in fact, drought and locusts are the principal drawbacks with which agriculture, the staple industry, has at times to contend.

Notwithstanding these disadvantages, which have, since the advent of British rule, been very considerably minimised by the construction of irrigation works and the conduct of a continuous campaign against the locust-plague, much of the land is highly cultivated. Even in the remote ages Cyprus was famous for its fertile soil, and, during the Roman occupation, copper mines were actively worked. To-day there is little mining being carried on, although the island is known still to contain copper in considerable quantities. Pyrites and chrome are, however, obtained. Vineyards cover a wide area and give occupation to a considerable and increasing number of the population.

The Turkish authorities placed a very heavy tax on wine and the industry struggled for many years under an impossible burden, but on the establishment of British administration a considerable reduction was made and the result has been a great increase in production, and the formation of a new staple export without a great loss of revenue owing to the increased output.



A STREET IN LIMASOL

It was here that King Richard (Cœur de Lion) was married to Berengaria

Photo, Underwood

Nicosia, the capital, is a city of about 19,189 inhabitants, which has much that is Greek and much that is Turkish in its setting and appearance. It stands on the fertile plain of the Mesaorea, which occupies a considerable portion of the centre of the island between the ranges of the coast. The mountains in the south-west attain their highest point in Mount Troodos, the Olympus of the ancients, which is 6,400 ft. high.

The Plain of Mesaorea extends from the Bay of Famagusta to the Bay of Morphon. The two ports of the same name are connected by a railway line, 76 miles in length, which crosses this plain and links the capital with both coasts. The port of Famagusta has been much improved by the construction of harbour works, and now bids fair to enjoy a considerable maritime and coasting trade.

The administrative divisions of the island have been named after the chief towns, which are—Nicosia, the capital ; Larnaca, with a population of about 10,000, which, although an important commercial centre and the chief seaport of the Mesaorea, has only an open anchorage ; Limasol, another similar port, which is the centre of the wine industry and has a population of 14,000 ; Famagusta, a fortified port and railway centre with about 7,276 inhabitants ; Paphos, which has a population of only 4,129 ; and Kyrenia, another small town of about 2,000 inhabitants.

The people of Cyprus are, generally speaking, contented and peaceful, although every year there is a considerable number of criminal convictions, often no fewer than fifty being for brutal assault or murder, but crime is by no means rampant, and compared with the state of the island when taken over by Great Britain the improvement in public morals, law and order has been remarkably rapid. Considering the enervating effects of the climate, and the curious combination of somewhat lazy Turks and other Eastern races and the more energetic Greeks, the people, on the whole, are fairly industrious, especially in forms of agriculture which do not require the continual tilling or moving of the soil. Greek and Turkish are the languages mostly spoken besides English, and there are newspapers in all three. When Cyprus was first occupied by the British the troops suffered much from the heat and bad sanitary arrangements, but during recent years this station has been considered one of the most healthy in the military circuit of Empire and the death-rate among all classes of the population has been reduced to the European level.

DEFENCE

NAVIES, ARMIES AND AIR FORCES OF THE EMPIRE

SYSTEM OF IMPERIAL DEFENCE.

THE system of Imperial Defence is, in broad outline : (1) the general strategical defence of the Empire as a whole, which is provided by the Imperial Government ; (2) local defence, which is undertaken by India and the Self-Governing Dominions within their defined Naval, Military and Air spheres ; (3) the Imperial Forces, which, with their reserves and oversea bases, are maintained at a sufficient strength to act decisively in any probable theatre of war (bearing in mind the nature and strength of possible enemies) when they have been properly mobilised, transported and concentrated ; (4) the local forces in the various Naval and Military divisons of the Empire, which are expected to be sufficiently strong to check for a time any sudden invasion by any combination of hostile forces in the three elements which could reasonably be launched against them without protracted, and consequently well-known (and countered), preparations for war ; (5) this *period of check* being sufficiently long (bearing in mind the geographical position and features of the zone of operations) to enable the Imperial Forces to be properly mobilised, transported and concentrated upon the threatened zone ; and (6) the maintenance under all possible circumstances of sufficient garrisons, either of regular or reserve forces, in all the military divisions of the Empire, *during operations elsewhere*, to ensure an equal period of check for reinforcements to be concentrated upon the new point threatened.

To enable this system to be carried into effect there are branches of the Naval, Military and Air Staffs in the principal oversea centres of defence. Between these Dominion Staffs and the General Staffs of the Imperial Forces there is a system of co-education, intelligence and co-operation. In time of war the supreme direction of all the British Fleets, Armies and Air Squadrons passes under the control of the Imperial War Council, which is immediately expanded to include Dominion statesmen, and the Imperial General Staffs to which the Dominion Naval and Military Commanders are attached. In this way unified control is at once established under the High Commands.

Apart from sudden and unforeseen necessity it has become a pivot of Imperial policy that no declaration of war shall be made involving the Dominions without previous consultation between the central Government and those of the nations of the British Commonwealth. This insures that any cause which the Empire may defend by the final appeal to arms is one which has been judged and acclaimed as just and necessary by the Governments of seven or more self-governing states of the world—a league of nations with common interests and ideals, without territorial ambitions because of the ample space for expansion which they already possesses, whose united voice is therefore the most powerful factor for peace in world politics.

This system, although somewhat costly to the Motherland, enables the younger members of the British League to develop their national resources without the impossible financial burdens which the maintenance of strong permanent forces of the three great arms would otherwise entail *on their comparatively small populations.* On the other hand, its effectiveness in the general defence of the Empire was proved conclusively in the World War of 1914–18. The Dominion Armies numbered over 3,000,000 men, in addition to powerful sea and air squadrons. The cost to the Dominions was about £1,000,000,000, but the result was victory with the years of security and peace which usually follow.

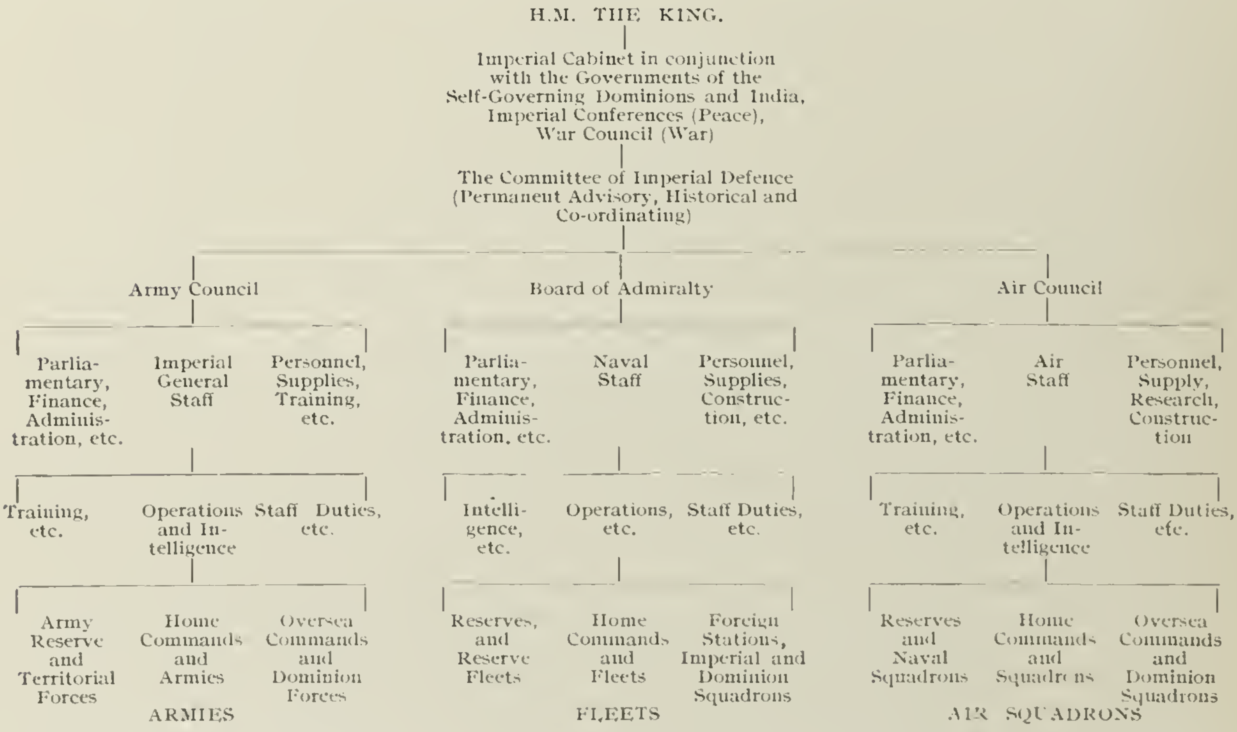
Although stated here in broad outline there are problems of great complexity; and much statesmanship, administrative and technical work is involved in financing, raising, equipping, building, co-ordinating, training and maintaining the fighting services. The responsibility for the efficient carrying out of the Imperial Defence policies and strategy is divided among a number of Ministerial Boards and Councils, Parliamentary Committees, and Fighting Staffs. Perhaps the best way of showing this division of responsibility for, and control of, the Empire's defences, is by the use of a simple diagram which will, more or less, explain itself.

Navies

In one line of imperial poetry Alfred, Lord Tennyson, summed the value of the Royal Navy to the British race—"The Fleet of England is her all in all." Born with the defeat of the Great Spanish Armada, in 1588, cradled and nursed through two centuries of oversea adventure and enterprise, educated and organised under the captains of Nelson's day, victorious at Trafalgar in 1805, then tested to the utmost in the Great World War of 1914–18 by every appliance known to one of the most scientific nations of a scientific age, but still undefeated,—"Mistress of the Seas."

Such in brief outline is the glorious history of the British Navy, which insures not only the freedom and security of the whole British race and Empire, and the allied races and lands within its fold, but also the peace and safety of the seas for the ships and commerce of all nations. History shows that concomitant with the rise of the British Navy piracy died, wrecking ceased, marine surveys

System of Imperial Defence


H.M. THE KING.
Imperial Cabinet in conjunction with the Governments of the Self-Governing Dominions and India, Imperial Conferences (Peace), War Council (War)
The Committee of Imperial Defence (Permanent Advisory, Historical and Co-ordinating)
Army Council
Board of Admiralty
Air Council
Parliamentary, Finance, Administration, etc.
Imperial General Staff
Personnel, Supplies, Training, etc.
Parliamentary, Finance, Administration, etc.
Naval Staff
Personnel, Supplies, Construction, etc.
Parliamentary, Finance, Administration, etc.
Air Staff
Personnel, Supply, Research, Construction
Training, etc.
Operations and Intelligence
Staff Duties, etc.
Intelligence, etc.
Operations, etc.
Staff Duties, etc.
Training, etc.
Operations and Intelligence
Staff Duties, etc.
Army Reserve and Territorial Forces
Home Commands and Armies
Oversea Commands and Dominion Forces
ARMIES
Reserves, and Reserve Fleets
Home Commands and Fleets
Foreign Stations, Imperial and Dominion Squadrons
FLEETS
Reserves and Naval Squadrons
Home Commands and Squadrons
Oversea Commands and Dominion Squadrons
AIR SQUADRONS

were inaugurated, navigation marks were instituted, the slave trade was strangled, native barbarities were checked, and, more recently, submarine "frightfulness" was crushed.

If the Fleets are the "all-in-all" of England they are also the life-blood of the Empire. A Commonwealth of sea-divided states must be able to rely, in both peace and war, upon the uninterrupted passage of its ships, people and commerce over the intervening spaces of sea or else suffer disintegration through the severance of the only ways of communication. An Empire even temporarily divided in this way could easily be defeated in detail by a collectively inferior enemy.

ROYAL NAVY PERSONNEL.

The total personnel of the British Royal Navy, previous to the outbreak of the greatest war in history (1914), was about 150,000 of all ranks, with a Reserve Force, comprising the Royal Fleet Reserve, Royal Naval Reserve, and Royal Naval Volunteer Reserve totalling between 70,000 and 80,000 men. There were about 85 Admirals of all grades, 250 Captains, 400 Commanders and 1,000 Lieutenants, besides Junior Commissioned, Warrant and Non-combatant Officers on the Active List.

The two most modern departments of the Navy were the submarine and air services; the former was part of the Navy proper, whilst the latter had almost a separate existence, and was known as the Royal Naval Air Force (see *Royal Air Force*). It was recruited partly from the Navy and partly from the civilian population. In both of these departments, or auxiliary services, the pay of both officers and men was on a higher scale than was usual in the Navy. Both were developing rapidly and were fast becoming very important organisations in every way.

The outbreak of the Great War in 1914 caused the British Navy to be immediately expanded by the mobilisation of all the available reserves mentioned above, and the Reserves themselves were expanded by new enlistment and intensive training; until, in the final year of actual warfare (1918), the personnel of the British Royal Navy, exclusive of the Fleets of the Dominions, which co-operated so effectively with the Mother-service, numbered about 420,000

Navy League WHILE THE EMPIRE SLEEPS *Photo Imperial War Museum*

The Naval Wing of the Royal Flying Corps, founded in 1912, was incorporated in a separate combatant service known as the Royal Air Force (*q.v.*) in 1917–1918.

It may be of historic interest to give here a few extracts from an excellent little official publication, showing how the British Fleet was manned and expanded in by-gone days of national peril.*

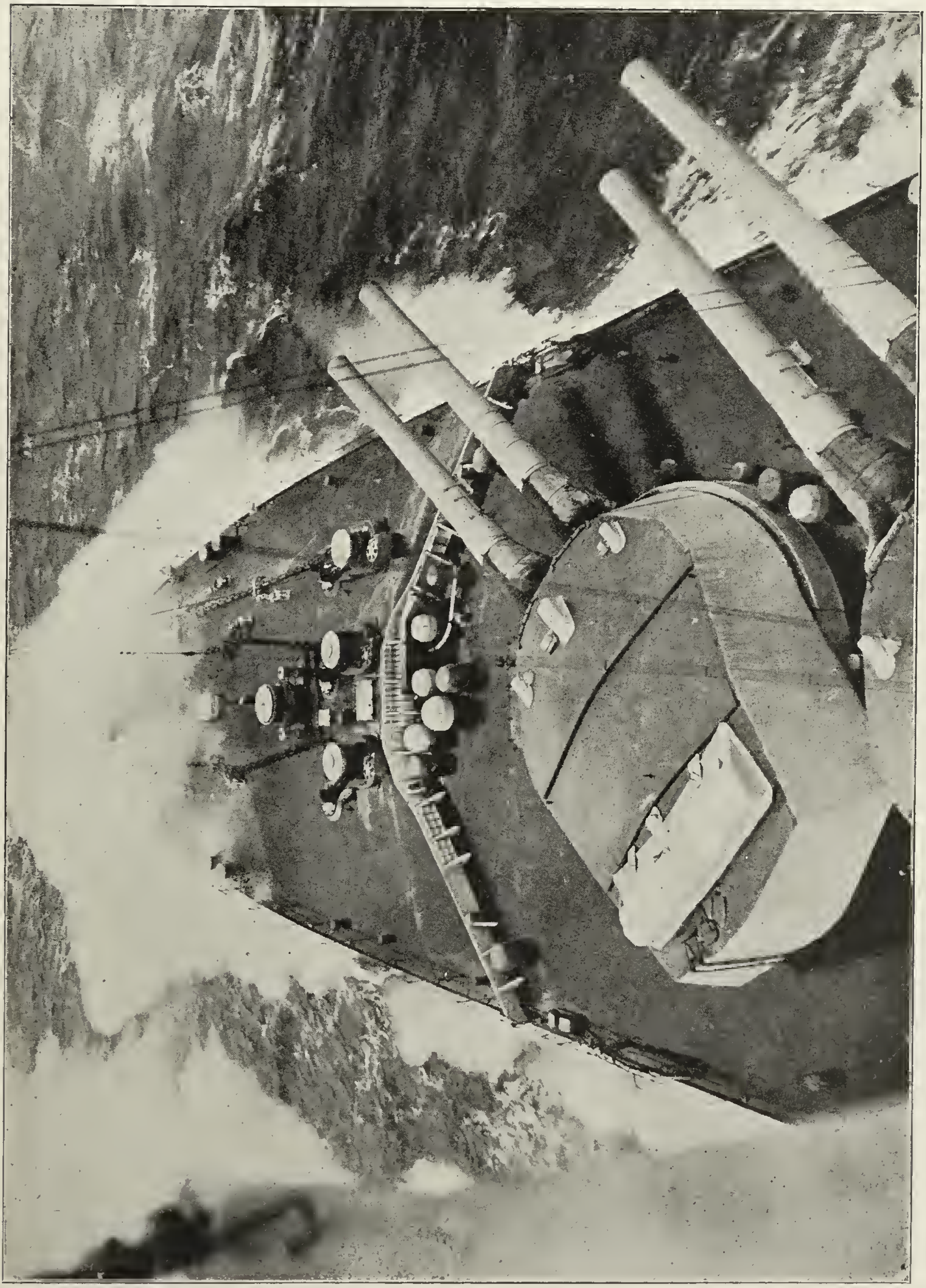
" In time of war there has always been an intimate connection between the Royal Navy and the Merchant Service. Latterly, and more especially since the Russian War of 1854 to 1856, this fact tended to be forgotten, partly because men-of-war developed on particular lines and became far more unlike merchantmen than they had ever been before, and also because, by the introduction of continuous service, the personnel of the Navy seemed to have developed into a separate caste, distinguished by its associations, traditions and *espirit de corps*, as much as by its special training and qualifications, from other seafaring men. This war has proved once again, to such as needed proof, that the two services cannot exist without each other, and that the Sea Power of the Empire is not its naval strength alone, but its maritime strength. Even at the risk of insisting on the obvious, it is necessary to repeat that, for an Island Empire, a war at sea cannot be won merely by the naval action which defeats the enemy ; naval successes are of value for the fruit they bear, the chief of which is the power that they give to the victor to maintain his own sea-borne trade and to interrupt that of the enemy.

" It will be of interest to see how the personnel of the Navy expanded in former wars, and how at the peace it was invariably reduced to something like its pre-war figures. This can readily be done in tabular form :—

NAVAL PERSONNEL (NUMBERS VOTED)

Year.	Name of War.	Before War.	Maximum during War.	After the Peace.
1689	League of Augsburg	7,040	—	—
1697		—	40,000	—
1700		—	—	7,000
1700	Spanish Succession	7,000	—	—
1712		—	40,000	—
1713		—	—	10,000
1738	Austrian Succession	10,000	—	—
1748		—	40,000	—
1759		—	—	10,000
1754	Seven Years' War	10,000	—	—
1762		—	70,000	—
1764		—	—	16,000
1775	American Independence	18,000	—	—
1783		—	110,000	—
1785		—	—	18,000
1793	French Revolution	16,000	—	—
1801		—	135,000	—
1803		—	—	50,000
1803	Napoleonic War	50,000	—	—
1812		—	145,000	—
1817		—	—	19,000
1853	Russian War	45,000	—	—
1856		—	76,000	—
1857		—	—	53,000
1914	The Great European War	146,000	—	—
1918		—	450,000	118,000 (in 1921)

[*] *Naval Demobilisation*, issued by the British Ministry of Reconstruction.



THE FORWARD GUNS OF A BRITISH BATTLESHIP

Photo, Imperial War Museum

NAVAL PERSONNEL.

The entry and training of the officers and men of the Navy varies greatly, and is in accordance with the requirements of the Service in general. Officers enter as cadets through the training colleges, and application has to be made by parents and guardians very early in the life of the proposed cadet. There are also a certain number of cadets admitted each year from the training ships H.M.S. *Conway*, Rock Ferry (near Liverpool), and H.M.S. *Worcester*, off Greenhithe, on the Thames, and the Nautical College, Pangbourne, whilst in other cases Mercantile Marine Officers are entered into the Service direct. Engineer officers are entered in a similar manner. Boy artificers are entered between the ages of 15 and 16 years, and are trained for five years, receiving a small sum during that period. Seamen enter as boys and youths between the ages of 15¼ and 18, and must have a knowledge of reading, writing and arithmetic ; they are required to join for twelve years, and must have the consent of their parents or guardians. Under certain rules, seamen are admitted later in life. Mechanics, writers, hospital attendants, and other non-combative or skilled men are recruited according to the needs of the Navy. All boys and men of every class are required to pass a strict medical examination, and must be British Subjects. It is now possible for all men to rise from the ranks to commissions in the Service. Royal Naval Reserve officers and men are occasionally admitted into the permanent force.

ROYAL NAVAL RESERVES.

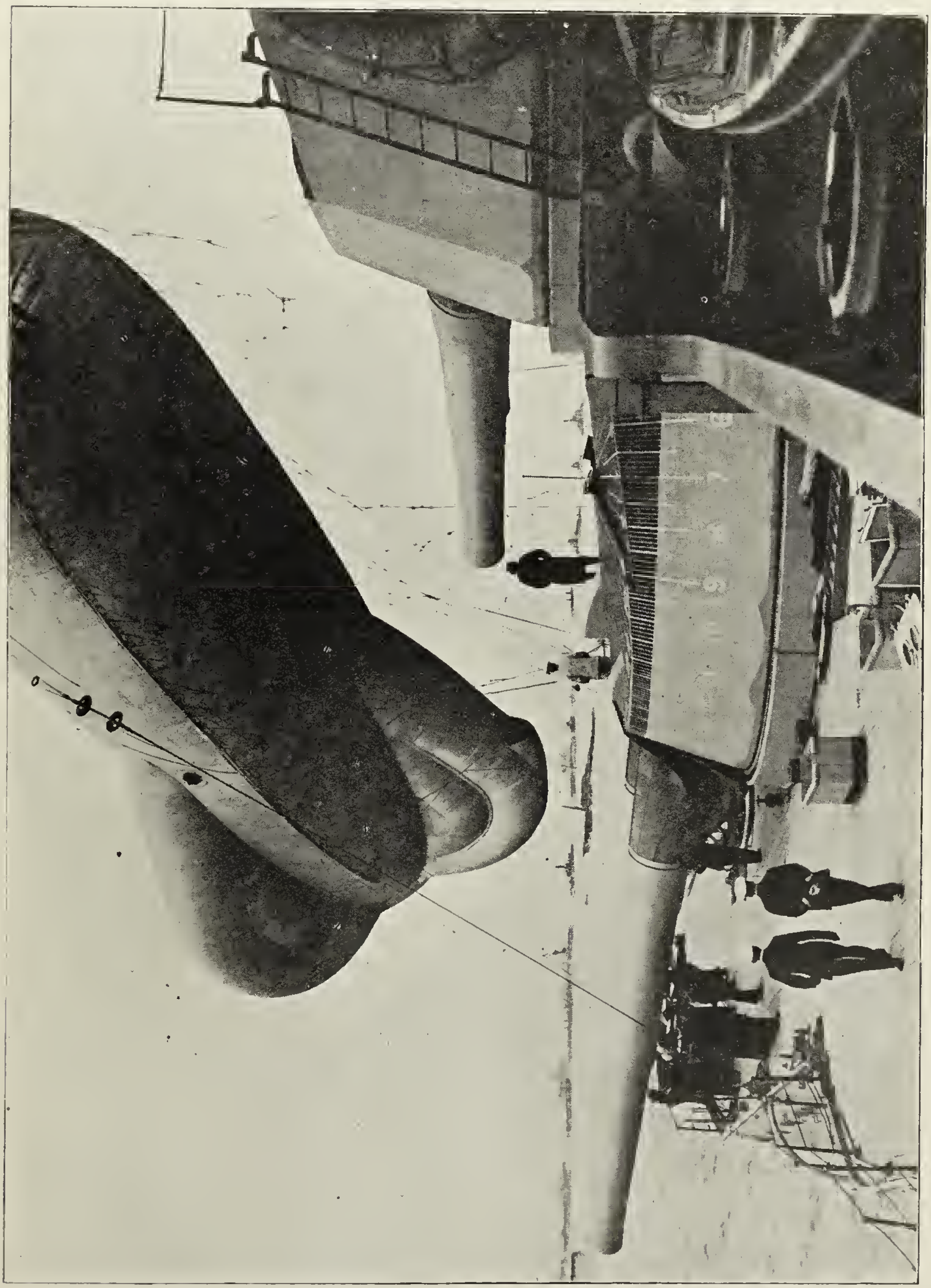
There are three distinct classes of reserves for the British Navy : (1) The Royal Naval Reserve (R.N.R.), drawn from and composed of officers of the British Mercantile Marine ; (2) the Royal Fleet Reserve, which is composed of men formerly in the Navy ; (3) Royal Naval Volunteer Reserve (R.N.V.R.), which is composed of civilians and others in ordinary employment at various ports and seaside places who have volunteered for service, and who have received systematic training at the nearest Naval Depôt and in vessels of the Fleet. The first two of these classes are composed of thoroughly trained seamen, and they prove valuable additions to the permanent forces ; whilst the latter class contains partially experienced men. Those who were mobilised for the Great European War were fully trained, some as sea-going officers and men, others as staff and specialist officers, and a number as non-combatants. Several hundred rose to command. The present Volunteer Reserve is composed of all branches and is intended to make good the rapid wastage of modern sea war.

NAVAL ADMINISTRATION.

The whole control of the Navy is vested in a Board of Admiralty, composed of the First Lord, who is chief Parliamentary representative, and who has the general direction of all business ; the First Sea Lord, who is always an admiral of great experience and who controls the whole organisation for war and arranges, in consultation with his naval colleagues, the distribution of the Fleets. The administration is now divided as follows : the First Sea Lord, who is also Chief of the Naval Staff, together with the Deputy Chief and Assistant Chief of the Naval Staff, direct the work of the " Operations Division," which controls the Fleets in peace and war, collects intelligence, and determines all naval operations, manœuvres and strategy. The Second Sea Lord is chief of the Navy Personnel, the Third Sea Lord is Controller of the Navy, and the Fourth Sea Lord is Chief of Supplies and Transport, all of which services come under the " Maintenance Division." The Civil Lord is, as the name implies, one of the supreme civil chiefs, while naval finance and Parliamentary work is under the direction of the Parliamentary Secretary. The administration of the Admiralty (departmental), with all its branches and clerical and technical staffs, is supervised by the Permanent Secretary, who is a Civil Servant of high grade.

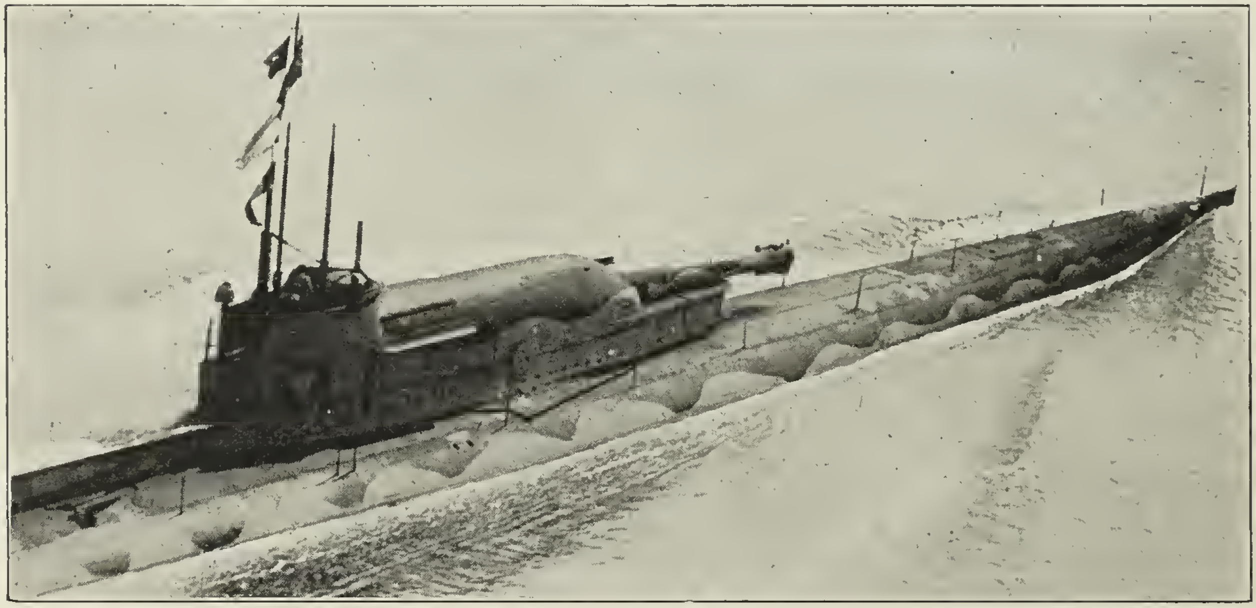
The Naval Staff is divided into nine sections : (1) operations ; (2) plans ; (3) intelligence ; (4) trade ; (5) gunnery ; (6) torpedoes and mining ; (7) training and staff duties ; (8) Naval Air ; and (9) tactical. Each section has a number of trained assistants. It is the Naval equivalent of the Imperial General Staff of the Army.

Other departments of the Admiralty include : (1) the Hydrographic Department (charts, navigation, sailing directions, and tidal work) ; (2) Mobilisation Department



Photo, Imperial War Museum

THE GRAND FLEET (1914-1918) FROM THE DECK OF THE FLAGSHIP, H.M.S. "QUEEN ELIZABETH"



A BRITISH SUBMARINE *Photo, Imperial War Museum*

This vessel is armed with a 12-inch gun as well as a large number of torpedo tubes

(3) Recruiting Department; (4) Physical Training; (5) Medical; (6) Paymaster Director-General; (7) Chaplain of the Fleet; (8) Education; (9) Naval Construction (Royal Corps of Naval Constructors); (10) Royal Marines; (11) Engineer-in-Chief; (12) Electrical Engineering Department; (13) Naval Ordnance; (14) Armament supply; (15) Torpedoes and Mining (with Torpedo and Mining Schools); (16) Naval Equipment; (17) Compass Department; (18) Dockyards Department; (19) Signal Service; (20) Dockyard Expense Accounts Branch; (21) Naval Store Department; (22) Victualling Department; (23) Civil Engineer-in-Chief; (24) Contract and Purchase Department; (25) Accountant-General; (26) Reserves and R.N.V.R. Committee; (27) Scientific Research; (28) Statistics, and (29) Greenwich Hospital (Pensions to Seamen).

FLEETS.

The British Navy is made up of ships of various types, kinds, and sizes, built at various dates, under the NAVAL ESTIMATES for each year. Some of the vessels and material are built or manufactured in Government dockyards and factories, whilst others are built under contract by firms of great experience and reliability. The vessels are divided into fleets, squadrons and flotillas, in, as far as possible, a homogeneous manner and suitable for the work for which each is required. Various stores of coal, oil, guns, ammunition, and other munitions of war, together with food supplies, are constantly kept in a state of efficiency and preparedness, while the Dockyards are supplied with all the latest docks, tools, and appliances necessary for the upkeep of a large fleet. The vessels of the Royal Navy, which includes: (1) the Royal Australian; (2) New Zealand, and (3) Canadian Navies, will be seen in the following table.

Battleships	14
Battle-cruisers	4
Cruisers	48
Monitors	3
Torpedo-boat Destroyers	157
Flotilla Leaders	17
Submarines	55
Sloops	33
Coastal Motor Boats	6
River Gunboats	18
Aircraft Carriers	8
Minesweepers	61

There are also a number of ships in various stages of construction which will replace fleet units becoming obsolete, the principal being: 2 battleships, 14 cruisers, 9 submarines, 1 cruiser-minelayer and 2 destroyers, together with various auxiliary craft.

Beyond (1) the vessels actually forming the active fleets, there are (2) those being

THE MORNING OF VICTORY, SCAPA FLOW NOVEMBER 11th 1918

Photo, Imperial War Museum

built under the Naval Estimates, and (3) those projected, but the construction of which has not been commenced. During recent years this latter part of the naval programme has become entirely dependent on two potential factors: (1) the *minimum* naval requirements of the Empire, and (2) the international policy of disarmament in so far as other nations are willing to follow the lead of the British Empire and the United States.

The Commands of the Navy are: (1) The Nore; (2) Portsmouth; (3) Plymouth; (4) Coast of Scotland; (5) Reserve Fleet; (6) Atlantic Fleet; (7) North America and West Indies; (8) Mediterranean; (9) China; (10) East Indies; (11) India; (12) Africa; (13) Australian Fleet; (14) New Zealand Fleet; (15) Canadian Fleet.

NAVAL FINANCE.

During the last few decades the British Navy has altered and grown in all directions, but not by any means out of proportion to the needs of the Empire. It is not only in numbers but in size and strength of individual units that this change has occurred, and the battleship of to-day is infinitely more powerful than that built ten or fifteen years ago. As is natural, Naval Expenditure shows correspondingly large increases, especially so as greater numbers of trained seamen had to be enlisted to meet the increases in size and number of ships. The following table is illustrative of the change that had taken place in this direction up to the Great European War and the Ratification of the Washington Naval Agreement in 1922.

Year.	*Expenditure.*
	£
1900–01	29,998,529
1905–06	33,389,600
1910–11	41,118,668
1913–14	47,021,636
WAR PERIOD.	
1920–21	90,872,300
1921–22	82,479,300
WASHINGTON AGREEMENT.	
1922–23	64,883,000
Building programme to be reduced for some years.	

From 1923 to 1930 the average annual expenditure has been reduced to under £56 millions. In 1930 an effort was made to effect still greater reductions in world naval forces by a conference in London.

The five great naval powers of the world are, the British Empire, the United States of America, the Republic of France, Italy, and the Japanese Empire. The average annual pre-war expenditure of these nations on naval defence compared with the average annual post-war disbursement is as follows:

Nation.	Pre-war average.	Post-war average.*
	£	£
Great Britain	44,500,000	73,000,000
United States	32,000,000	90,000,000
France	22,000,000	17,000,000
Japan	11,000,000	37,000,000

* Up to Washington Treaty.

In 1927 a Naval Conference took place at Geneva between the representatives of Great Britain, the United States and Japan to discuss the further limitation of naval armaments. It was decided that a Conference of all the Naval Powers should be convened in 1930 (instead of 1931 as arranged previously) to consider the practicability of revising the Washington Treaty.

The fundamental technical principles of naval equals in different types of ships and armaments, the life and utility of warships, and the sea strength to which each Power was to be entitled, when all the national circumstances had been reviewed, formed the subject of a proposal prepared for the study of each government before the 1930 conference. In this way it was hoped to overcome the technical difficulties experienced in previous meetings. The 1930 Conference took place in London, and met with partial success.

Many of the Oversea British Dominions and Colonies contribute to the maintenance of the Royal Navy, while others have acquired, or are considering the acquisition of fleets of their own, which in time of war become part of the Imperial battle fleets.

The Naval policy of Australia, Canada, and New Zealand is described at length later on in this article. The INDIAN EMPIRE contributed in pre-war years about £100,000 per annum to the upkeep of the Royal Navy, and maintained a fleet of steamships, known as the *Royal Indian Marine*.

These vessels, of which there were about five, were principally used for transport work, but in war time they were armed and placed under the orders of the British Naval Commander of the East Indies Station.

The Government of the UNION OF SOUTH AFRICA subscribed about £85,000 per annum to the Royal Navy. The armoured cruiser *Good Hope* (lost in the gallantly-contested action with a superior German squadron off Coronel, Chile, in 1914) was presented by South Africa to the Royal Navy. The Union now provides a Naval Defence Force consisting of: (1) the South African Division of the Royal Naval Volunteer Reserve; (2) a Special Naval Reserve; (3) a permanent force of Garrison Artillery; and (4) a Citizen Coast Defence Force. These units come under the Ministry of Defence and the Military Service Acts of 1912 and 1922 (see under *Armies*).

On 12th November, 1912, the Council of the FEDERATED MALAY STATES voted the magnificent sum of £2,250,000 for the building of a powerful battleship to be presented to the Royal Navy. With this money, H.M.S. *Malaya* was built and equipped. NEWFOUNDLAND maintained a Royal Naval Reserve of several hundred trained seamen, at a cost of about £3,000 per annum, and other Dominions and Colonies have assisted in providing the great fleets of the Empire.

Among the smaller Colonies contributing towards the cost of Imperial Defence are Hong Kong, Ceylon, Mauritius and the Straits Settlements. Hong Kong gave, in addition, the sum of £120,000 towards the cost of the Singapore Naval Base (see *Singapore*). The site for this base was provided by the Government of the Straits Settlements.

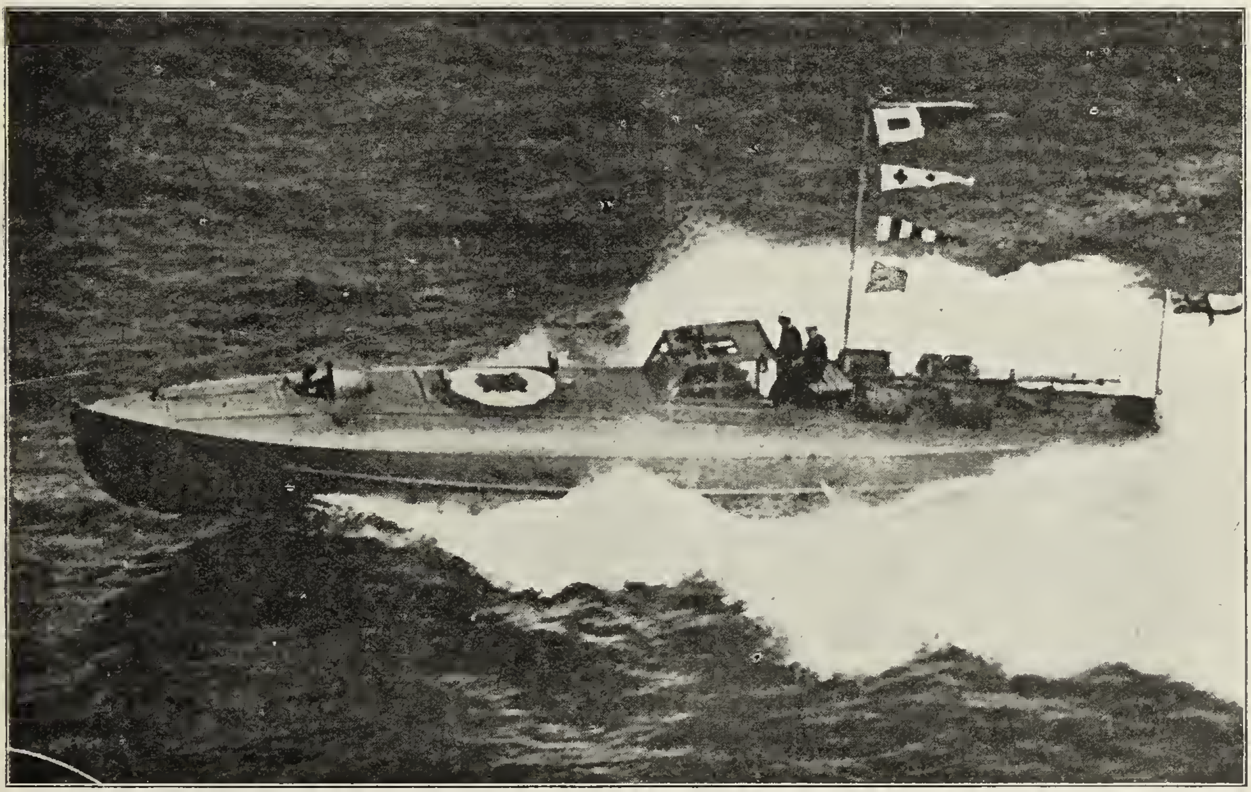


Photo by kind permission of John I. Thornycroft & Co. Ltd.

ONE OF THE FASTEST BOATS IN THE BRITISH NAVY

A "C.M.B." (torpedo-boat) travelling at fifty miles an hour

ROYAL AUSTRALIAN NAVY.

It is unnecessary to give here the contributions to the cost of the Imperial Navy by the separate Australian States prior to

Federation. By a series of agreements certain ships, forming a squadron, were maintained in Australian waters at the joint cost of Great Britain, Australia and New Zealand.

One of the reasons most frequently urged in favour of a federated Australia was the need for adequate defence. Accordingly, since the consummation of federation, the Commonwealth has assumed control of every branch of defence. Land defences have been unified and systematised, and it has been said that Australia is now ready to take full responsibility for the defence of her ports and dockyards, and for safeguarding her coastal trade. It may be mentioned that the floating trade of the Commonwealth exceeds £301,000,000 per annum, and its adequate protection involves corresponding naval provision with such naval war material as will permit the principal lines of sea communication being kept open.

For the defence of floating trade, the Commonwealth Government decided to build an Australian fleet, and in March, 1909, contracted for the construction of torpedo boat destroyers. Selected Australian workmen were sent to Britain to be trained in the yards of the contractors. Prior to 1905 a naval officer commanding administered the naval forces. On 12th January of that year the Council of Defence was established to deal with all questions of policy, and the Naval board, then first constituted, took over the administration of the Commonwealth naval forces. The former body was augmented in 1911. Continuity of policy and administration were thereby believed to be ensured, whilst efficiency and uniformity were provided for in the scheme of inspection and report by an officer who, as Director of Naval Forces, was appointed to deal with the training of the *personnel*, and the condition of the *materiel*, of naval forces and works.

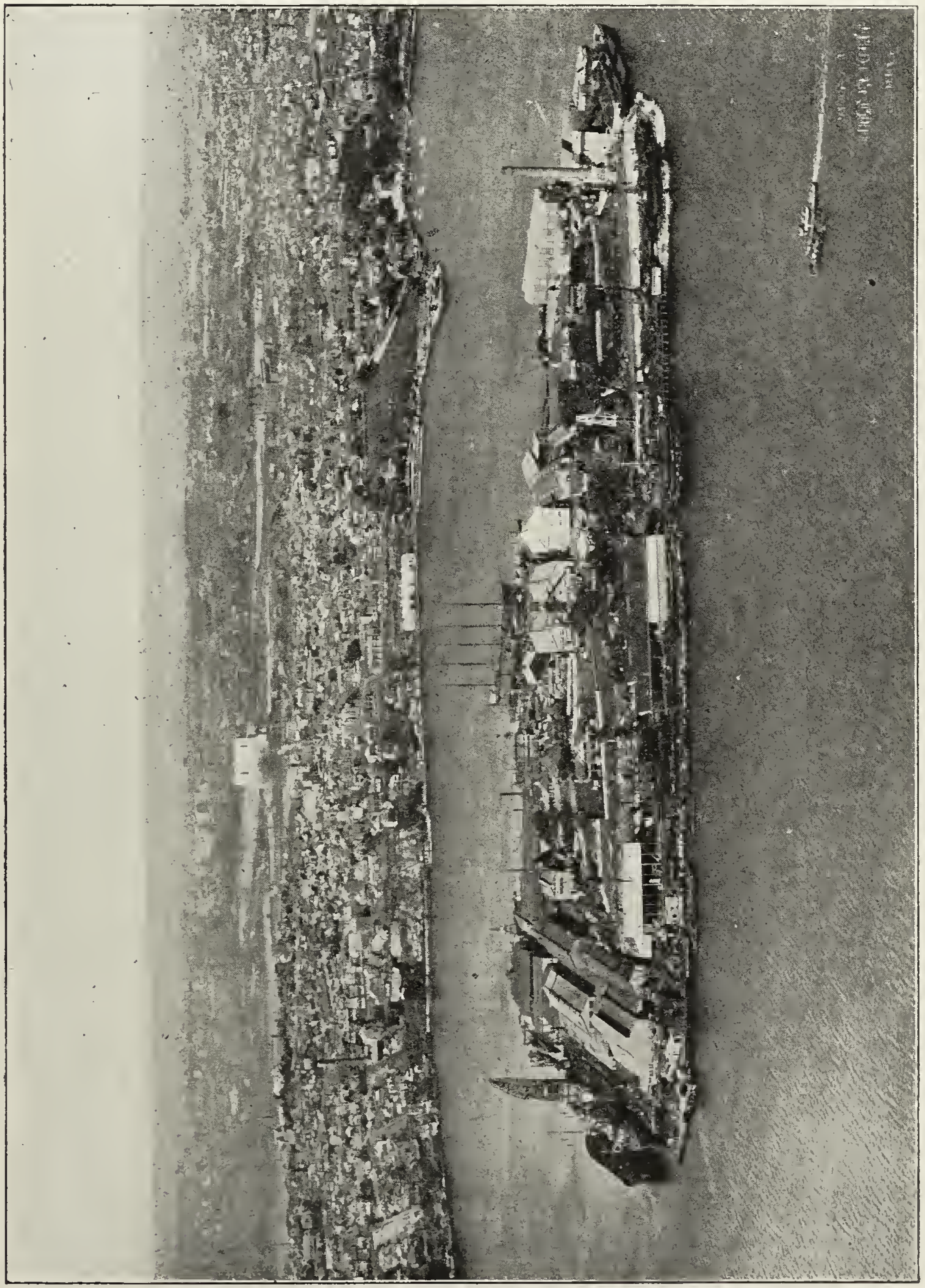
For the more effective coastal defence of the Commonwealth, it was decided, in 1909, to create a naval force, Australian in character, to replace the squadron hitherto maintained under the Naval Agreement with the Imperial Government ; Australia would thus have a navy, not merely a marine defence force. Engagements were entered into for the construction of torpedo boat destroyers.

The vessels arrived in Australian waters in 1910. A third vessel of the same kind, delivered in Australia in sections, and put together in Sydney, was commissioned in 1912. Arrangements were also made for the construction of vessels in Australia. Skilled artisans were despatched from Australia to gain practical experience in the building of the vessels, and crews were specially trained for service in them when completed.

A member of the Ministry, accompanied by naval and military expert advisers, attended the Imperial Defence Conference in London. The principal object of his mission was to concert with the other representatives as to the best measures to be taken to meet a common menace, particularly in the Pacific, where there must always be an outlet for Australian trade. The position was accepted that the burden of defence must in future be borne, not by part, but by the whole of the Empire, and, therefore, Australian plans and preparations must have the safety of the whole in view.

It was agreed that Australia should provide a fleet unit, to form one of the three divisions of the Eastern Fleet. The first instalment of the Australian Navy consisted of six Destroyers, a Battle-Cruiser and three second-class Cruisers. While on the Australian Station, they were to be under the exclusive control of the Commonwealth in time of peace, both as regards movements and general administration. The personnel were to be subject to the King's Regulations, under naval discipline, and were to be given opportunities for advancement, as in the Royal Navy.

The Battle-Cruiser (*Australia*) and the three second-class Cruisers (*Sydney*, *Melbourne* and *Brisbane*), with several submarines, completed the unit, which, with the approval of the Commonwealth Government, was to pass under Imperial control whenever required for war purposes (1914). It was to be manned, as far as possible, by Australians, supplemented by Imperial officers and men. Provision was made in the Naval Defence Act of 1911 for enlistment in the Permanent Naval Forces. A Naval College had been established, and the Captain-in-Command appointed on the recommendation of the British Admiralty. The site chosen for this college was Captain's Point, Jervis Bay. In order to expedite the training of officers,



COCKATOO ISLAND, SYDNEY HARBOUR

An aerial view of Australia's principal Naval Dockyard

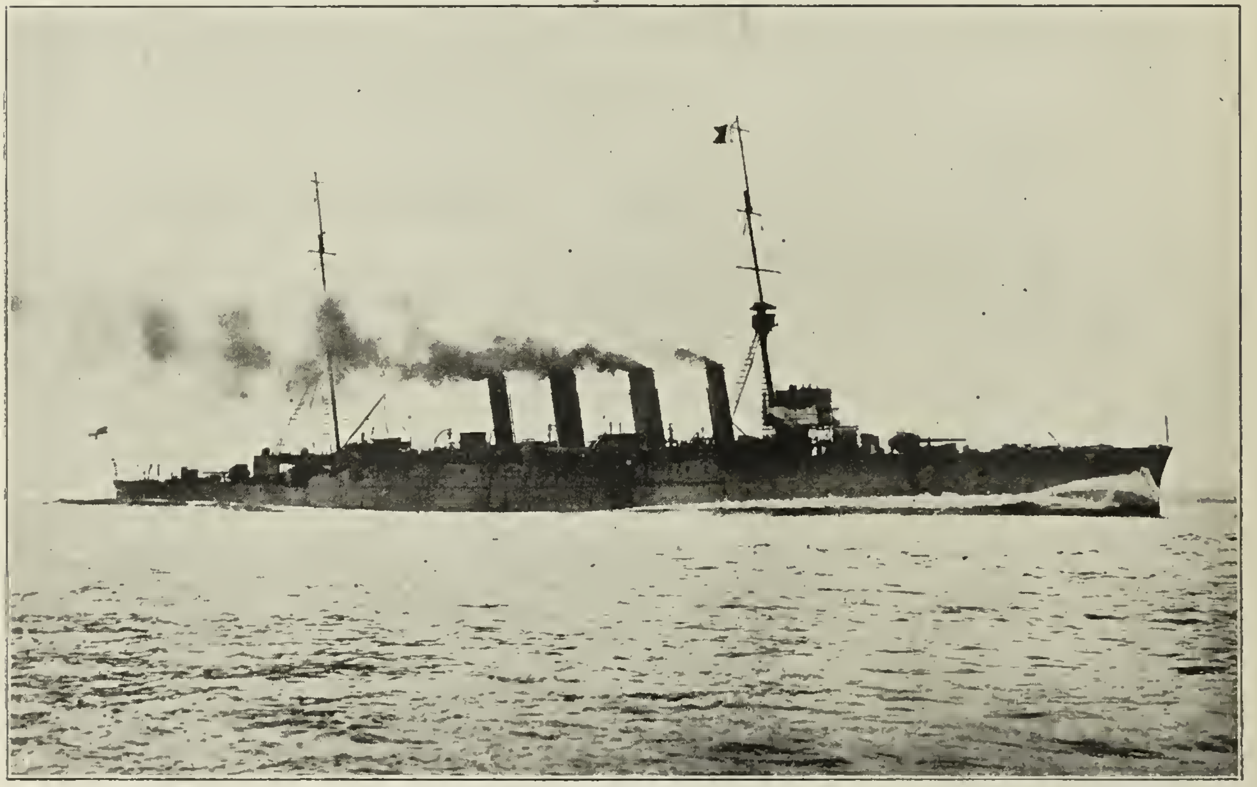
Photo, Australian Government

a temporary college was established at Geelong in 1913.

At the invitation of the Government, Admiral Sir Reginald Henderson visited Australia to advise upon the best position for a central naval base, and the works necessary to make it effective; the positions for secondary bases for the service of a fleet and their equipment for service in naval operations; also upon the location and character of the training schools for preparing personnel for the Australian naval service. The Admiral was also requested to report and advise on any other naval matters upon which he might care to express an opinion, and generally, in regard to all the measures to be taken in the formation of a fleet.

After an inspection of various harbours, the Admiral propounded a scheme which he embodied in a report to the Government in 1911. It provided 52 vessels and 15,000 men; expenditure on construction and works, £40,000,000, with an ultimate annual Naval Vote of £4,794,000. Six naval bases, and eleven sub-bases, were recommended.

The 52 vessels of the completed fleet were to be divided into Eastern and Western divisions, and consist of eight Battle-Cruisers, 10 protected cruisers, 18 destroyers, 12 submarines, three depôt ships, and one fleet repair ship, the building of which would extend over twenty-two years. The personnel for this fleet, fully manned, would be about 15,000. The Australian Government adopted Admiral Henderson's report, and naval expansion proceeded generally on the lines therein laid down.



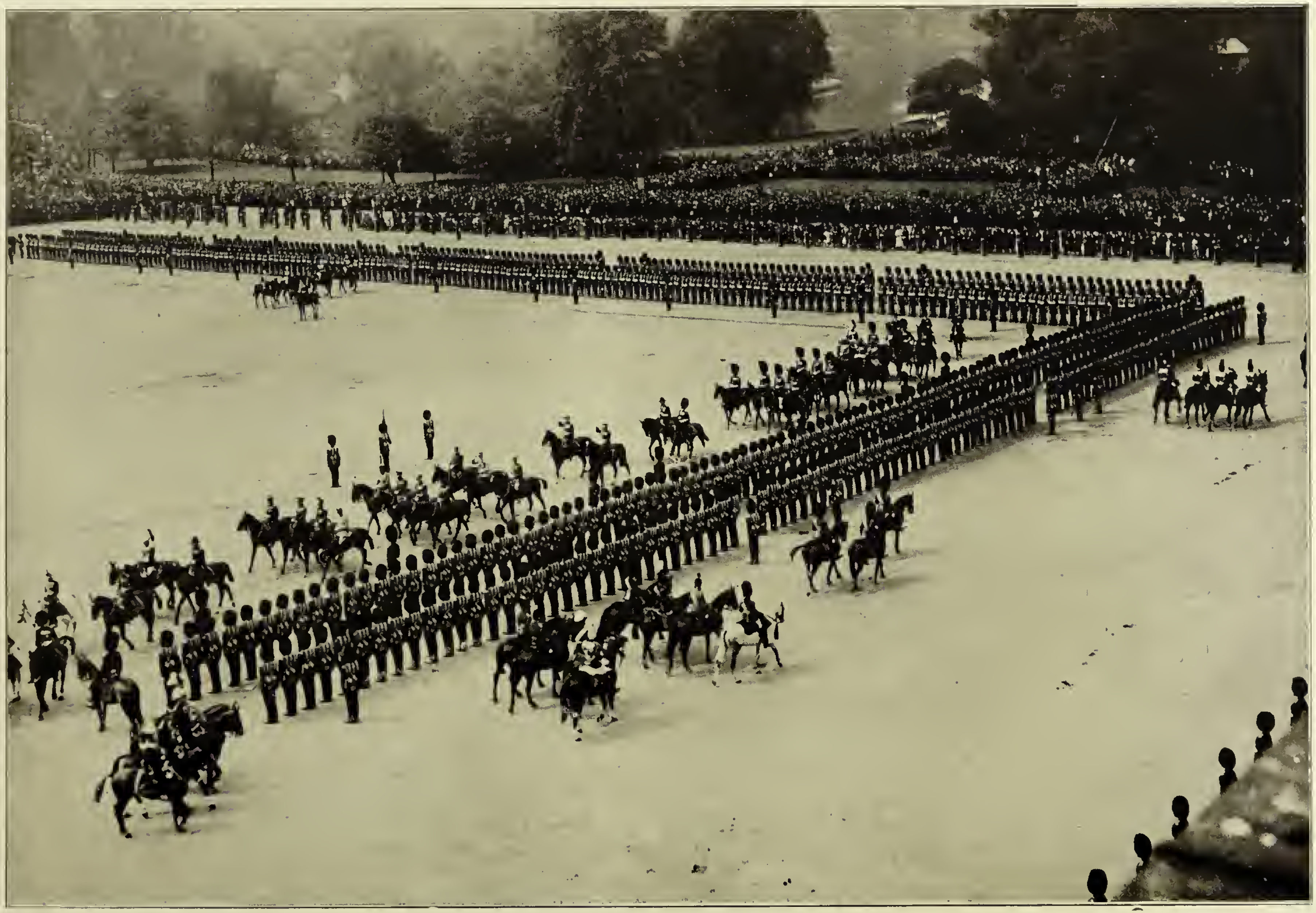
H.M.A.S. "MELBOURNE" *Photo, High Commissioner for Australia*

In 1914 the composition of the Naval Forces of the Commonwealth were as follows:

Permanent Naval Forces (sea-going)	3,730
Administration and Instructional -	148
Reserves - - - -	2,038
Senior Cadets - - -	3,332
R.N. Reserve - - - -	175
Total - -	9,423

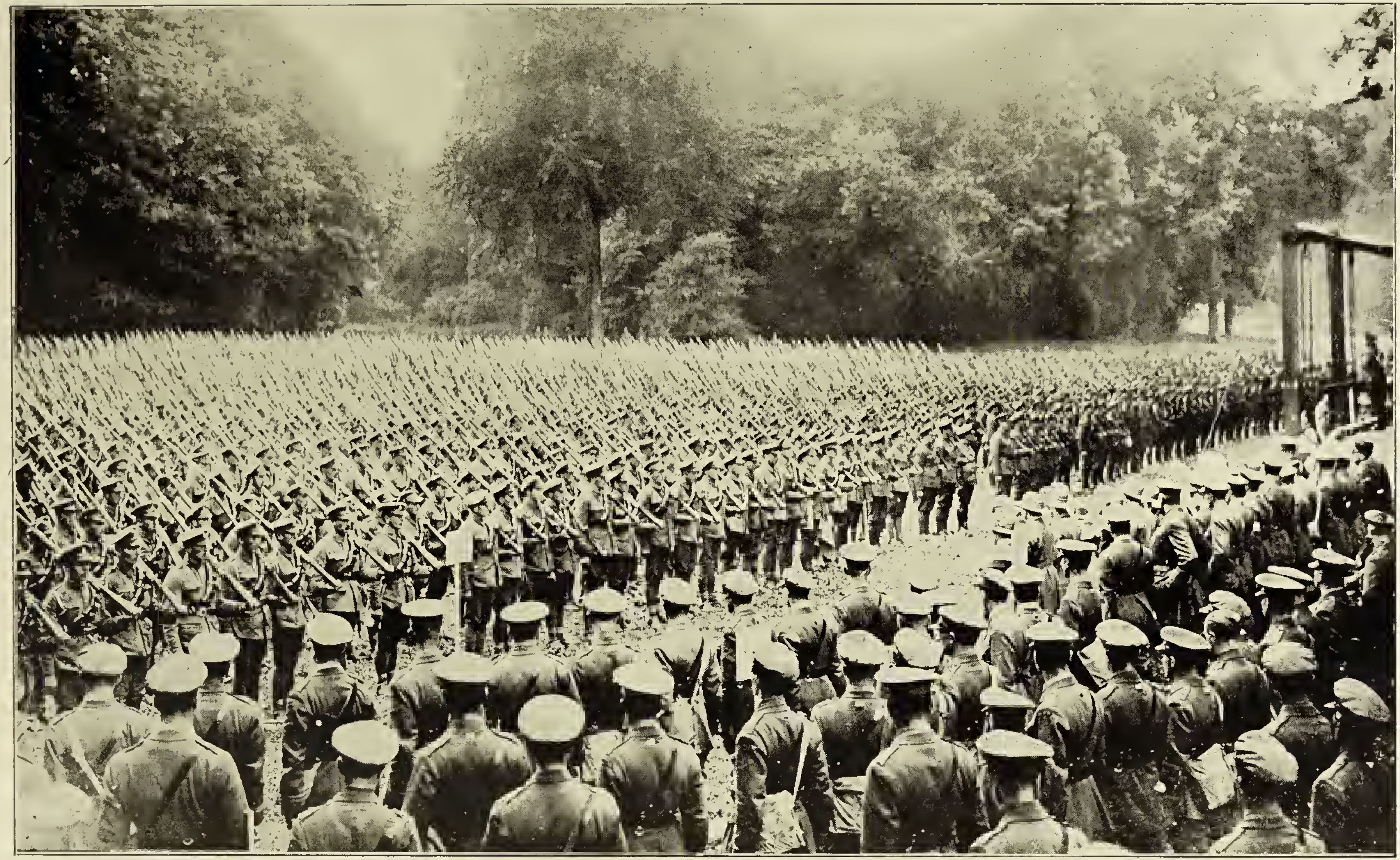
The outbreak of the Great European War in 1914 caused considerable alteration to be made in the Naval Forces of Australia. The squadron already in existence came under the control of the Imperial Naval Staff.

BRITISH WARSHIPS STEAMING IN LINE *Photo, Central News*



Photo, Sport & General

THE KING'S BIRTHDAY, TROOPING THE COLOUR ON THE HORSE GUARDS PARADE
The King inspecting the troops



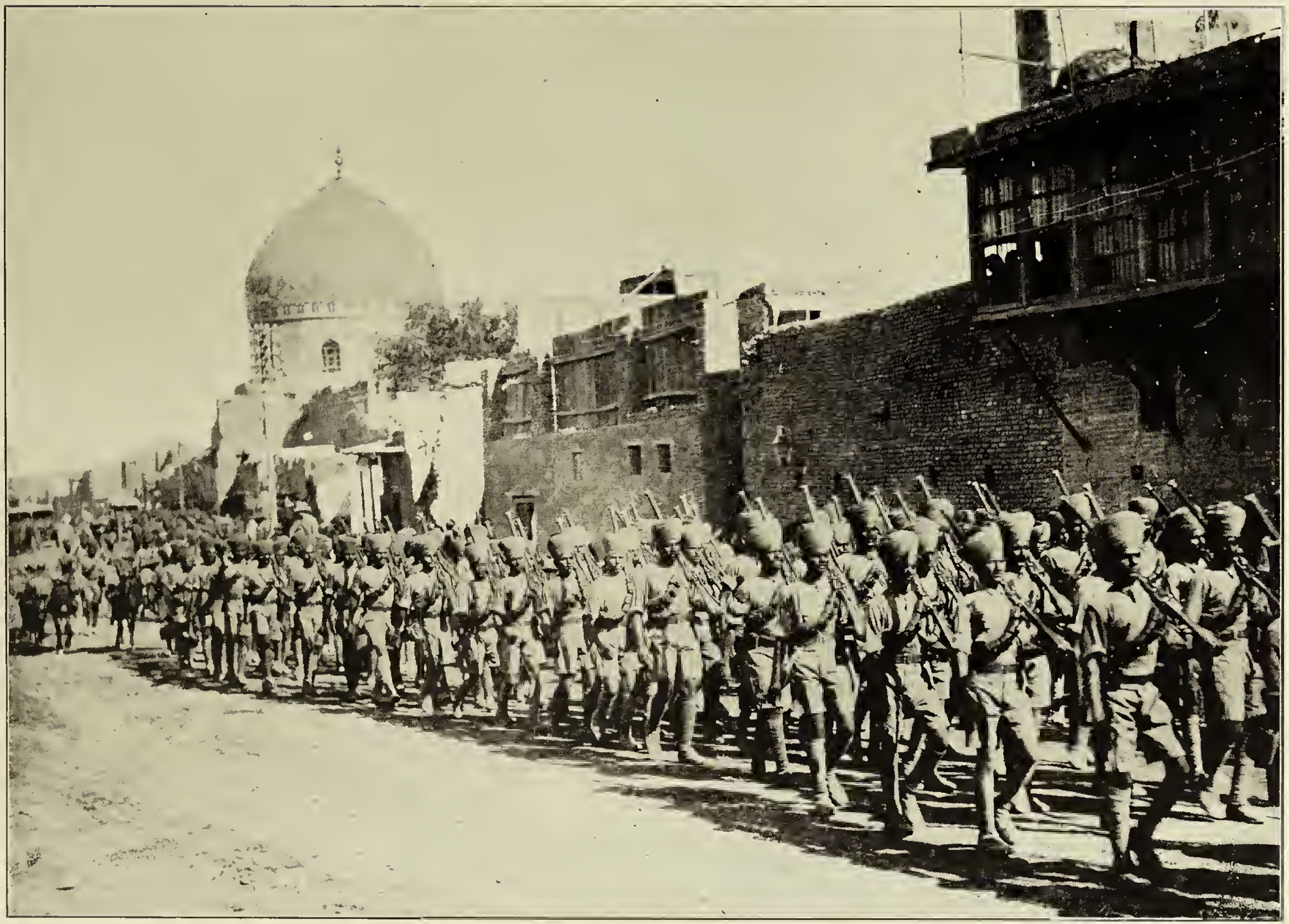
THE PRAYER FOR VICTORY

Photo, Imperial War Museum

Troops of the First Army at a great field service held at Ranchicourt, on August 5th, 1917—the first day of the fourth year of the Great War

AUSTRALIAN TROOPS
A Review by the Governor-General

Photo, Australian Government



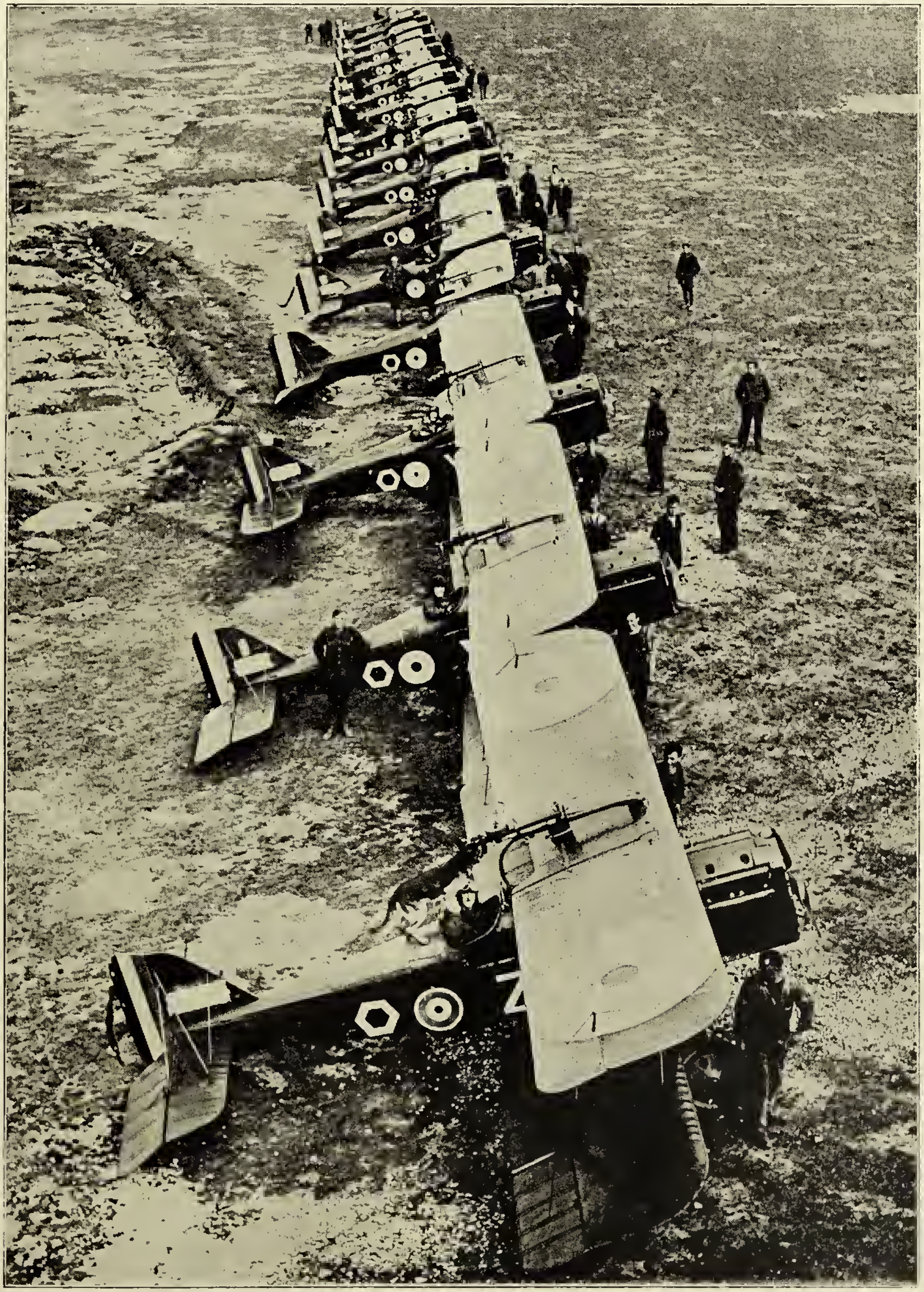
THE CAPTURE OF BAGHDAD

Photo, Imperial War Museum

Victorious Indian Troops marching through the capital of Mesopotamia (Iraq)

THE TIDE OF VICTORY

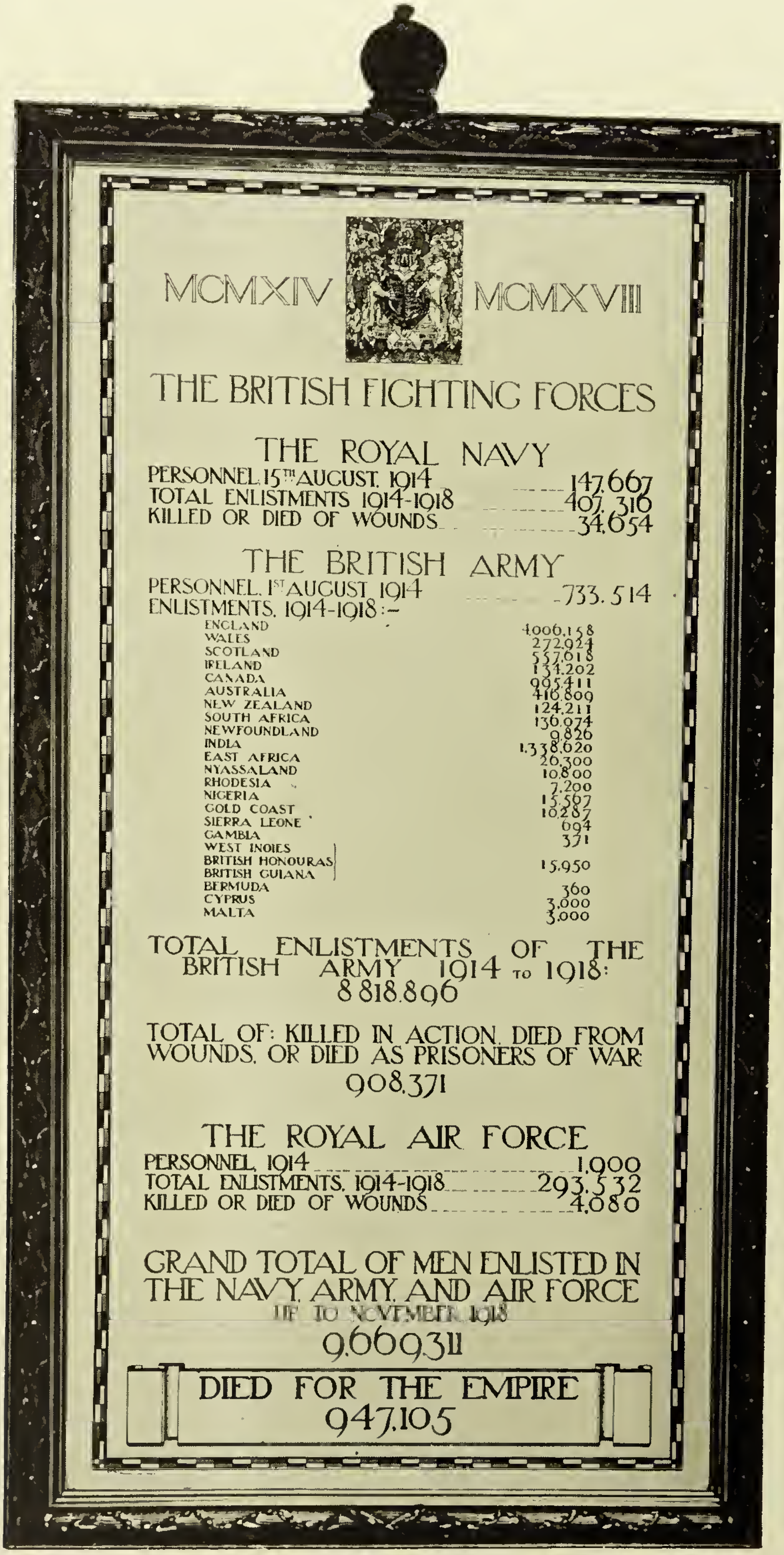
South African Scottish resting by the roadside after the severe fighting which preceded the rout of the German Armies at the close of the year 1918



Photo, Imperial War Museum

A SCOUTING SQUADRON OF THE ROYAL AIR FORCE

The famous 85th at St. Omar, 1918



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THE BRITISH FIGHTING FORCES

THE ROYAL NAVY

PERSONNEL 15TH AUGUST 1914	147,667
TOTAL ENLISTMENTS 1914-1918	407,316
KILLED OR DIED OF WOUNDS	34,654

THE BRITISH ARMY

PERSONNEL, 1ST AUGUST 1914	733,514
ENLISTMENTS, 1914-1918:–	
ENGLAND	4,006,158
WALES	272,924
SCOTLAND	557,618
IRELAND	134,202
CANADA	995,411
AUSTRALIA	416,809
NEW ZEALAND	124,211
SOUTH AFRICA	136,074
NEWFOUNDLAND	9,826
INDIA	1,338,620
EAST AFRICA	26,300
NYASSALAND	10,800
RHODESIA	7,200
NIGERIA	15,567
GOLD COAST	10,287
SIERRA LEONE	694
GAMBIA	371
WEST INDIES BRITISH HONDURAS BRITISH GUIANA	15,950
BERMUDA	360
CYPRUS	3,000
MALTA	3,000

TOTAL ENLISTMENTS OF THE BRITISH ARMY 1914 TO 1918:
8,818,896

TOTAL OF: KILLED IN ACTION, DIED FROM WOUNDS, OR DIED AS PRISONERS OF WAR:
908,371

THE ROYAL AIR FORCE

PERSONNEL, 1914	1,900
TOTAL ENLISTMENTS, 1914-1918	293,532
KILLED OR DIED OF WOUNDS	4,080

GRAND TOTAL OF MEN ENLISTED IN THE NAVY, ARMY, AND AIR FORCE
UP TO NOVEMBER 1918
9,669,311

DIED FOR THE EMPIRE
947,105

Photo, Imperial War Museum

THE BRITISH EMPIRE ROLL OF HONOUR
An official record of the Empire's effort and sacrifice. The figures given are total enlistments, and include the Reserves which were ready to take their place in the battle-line when victory crowned the allied cause

H.M.A.S. *Australia* was employed in operations against enemy bases, and the Light Cruiser *Sydney* against commerce raiders. The little vessel greatly distinguished herself, and gave the first battle honours to the Royal Australian Navy by destroying the German raider *Emden* at Cocos Island on November 9th, 1914. The two " E " class submarines were unfortunately lost. In 1918 the Cruiser *Adelaide* was launched at Sydney.

Admiral Lord Jellicoe visited the Commonwealth towards the close of the year 1919 to advise upon the naval defence of Australia in the light of recent war experience. His suggestions were adopted in general principle, and the Australian Fleet to-day forms a powerful unit of the Empire's naval force in Eastern waters.

In 1924 occurred the loss of H.M.A.S. *Australia*. The Fleet now consists of the first-class Cruiser *Melbourne* (flagship) ; the Light-Cruisers *Canberra*, *Sydney*, *Brisbane* and *Adelaide* ; four sloops, two destroyers, two submarines, several auxiliary ships, and one Cruiser not completed. There are several fortified bases and dockyards, one of the principal of which is on Cockatoo Island, Sydney, New South Wales. The sea-going forces consist of about 450 officers and 4,400 men. The Naval Auxiliary Forces total 42 officers and 180 men. The cadets in training at the R.A.N. College number 54. The officers on the Naval Reserve List number 44 with 121 men in the Fleet Reserve and there are 253 officers with 6,919 men in the R.A. Naval Reserve and 67 of various ranks in the R.A.N.V.R. The personnel of the Fleet, both on sea and land, is mainly Australian, supplemented by Imperial officers and trained men for educational work.

IN THE MAKING *Photo, Australian Government*

19,000 Australian Cadets marching past the Governor-General

ROYAL CANADIAN NAVY.

The interest of Canada in naval defence may be said to date from the establishment of a Naval Service Department in 1910. It was then proposed to proceed with the construction of four Cruisers and six destroyers. Although tenders for their construction in Great Britain were received in 1911 nothing further was accomplished owing to a change of Government. In 1912 the Prime Minister of Canada and three colleagues visited

London to confer with the British Government and Admiralty upon the whole question of naval defence and the conditions confronting the British Empire. During this visit the principle was laid down that the Dominions of the British Empire, sharing in its defence, must also share in the responsibility for, and control of, foreign policy, a principle which was accepted on all occasions in Great Britain, and which received the endorsement of both the British Government and Opposition.

In the ensuing session of the Dominion Parliament, a Bill was introduced to "authorise measures for increasing the naval forces of the Empire." Briefly stated, the proposals outlined were for the appropriation of a sum not exceeding 35,000,000 dollars to be devoted to the immediate construction and equipment in the United Kingdom of three battleships or armoured cruisers of the most modern and powerful type. It was proposed that these ships, when completed, should bear historic Canadian names, that they should be placed at the King's disposal for the common defence of the Empire, and that they should be maintained and controlled as part of the Royal Navy, subject to their recall to Canada upon reasonable notice should the Dominion in future desire to establish a Canadian unit of the British Navy (as suggested in previous years).

By their construction in the United Kingdom instead of Canada, it was estimated that not only would the ships be completed at an earlier date, but also a saving in cost of about 12,000,000 dollars would be effected. With a view, however, to developing Canadian shipbuilding, it was understood that the British Admiralty would give orders for the construction in Canada of small cruisers, oil tank vessels, and auxiliary craft of various kinds. It was proposed that Canadians should have opportunities of serving as officers in the new warships.

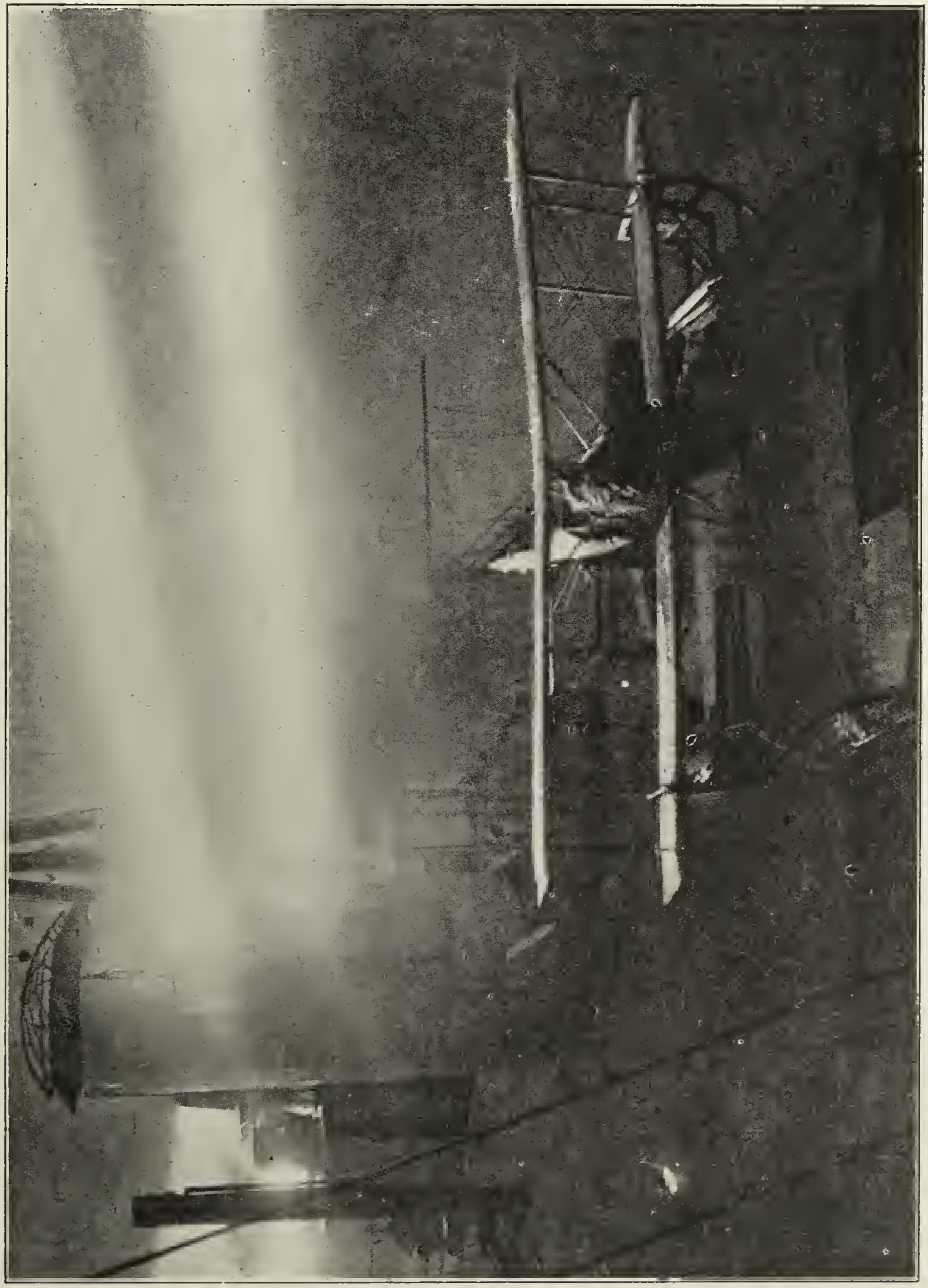
Associated with the proposals of the Dominion Government was an arrangement for the representation of Canada upon the British Committee of Imperial Defence. The Premier announced that the British Government, pending a final solution of the question of the voice and influence of the Overseas Dominions, would welcome the presence in London of a Canadian Minister during the whole or a portion of each year, such Minister to be regularly summoned to the meetings of the Committee and to be consulted with upon important steps in foreign policy.

When the Bill embodying these principles and furnishing vessels for duty with the Imperial Fleets came before the Canadian Parliament an amendment was put forward, which, while agreeing in principle to Canada's participation in Imperial naval defence, suggested that two squadrons of a Canadian Navy should be formed, for duty in the Atlantic and Pacific, respectively. Eventually the Bill failed of enactment. Then came the World War of 1914–18, and the Dominion purchased two submarines built in the United States for the Chilean Navy, and these vessels were equipped on the Pacific coast of the Dominion. The two old cruisers *Niobe* and *Rainbow*, originally employed as training ships, were used for commerce protection. Canada supplied a considerable number of both officers and men for service in the Royal Navy, and a number of small anti-submarine craft were constructed in the Dominion and transported to England for duty in the principal zones of naval war.

In 1922 the first really practical effort was made to place the sea and land defences of Canada on a sound administrative basis. A Department of National Defence was formed, combining the former Naval Service Department, Militia Office and Air Board. This new Department of State is under the control of a Minister of Defence who has Naval, Military and Air Advisers. The Royal Canadian Navy consists of two Destroyers and four Minesweepers on the Active List, with two submarines in Reserve. The personnel numbers 510 officers and men. There is a R.C.N. Reserve of 500 officers and men and a R.C.N.V.R. 1,000 strong. Canada has fortified Naval Stations on both the Atlantic and Pacific Coasts.

THE NEW ZEALAND DIVISION OF THE ROYAL NAVY.

This Island Dominion of the Pacific has been ever ready to bear a full share in the naval defence of the Empire. On 23rd December, 1887, the New Zealand Legislature passed the Australasian Naval Defence Act, which provided for the establishment



Photo, *Imperial War Museum*

THE FLEET AIR ARM

Searchlights and Seaplanes on a Modern Warship of an additional naval force on the Australian station at the joint charge of the Imperial and Colonial Governments. The total *annual* contribution payable by the Colonial Governments was £126,000, of which New Zealand's share, on a population basis, amounted to £21,304 in the year 1900. Three years later a new Agreement was entered into whereby New Zealand's annual contribution to the Imperial Navy was placed at a maximum of £40,000 ; and, in 1908, the contribution was raised to £100,000 per annum.

In 1908 and 1909, the greatly increased activity in the Continental naval dockyards, and the rapid construction of modern warships of the Dreadnought type, rendered the programme of naval construction mapped out by the Home Government inadequate to secure the desirable margin of safety when the relative strength of our own and foreign navies came to be considered. The situation was causing uneasiness among British statesmen, and throughout the Empire it was felt that, to retain our supremacy at sea and to safeguard our immense commercial interests, the Oversea Dominions should take upon themselves greater responsibilities in regard to the Navy, and make every effort and sacrifice to maintain its relative strength and efficiency.

The New Zealand Government had been fully informed of the situation in Europe, and, recognising that it was critical, the Cabinet unanimously decided that an offer of substantial assistance should be immediately cabled Home. Accordingly, on the 22nd March, 1909, the following communication was sent to the Secretary of State for the Colonies through His Excellency the Governor :—

" The New Zealand Government offers to defray the cost of the immediate building and arming by the British Government of one first-class battleship of the latest type, and,

THE BATTLE-CRUISER, "NEW ZEALAND" *Photo, Imperial War Museum*
Flagship of the New Zealand Division of the Royal Navy

if subsequent events show it necessary, will provide the cost of a second battleship of the same type."

In the House of Commons, the Prime Minister announced that the offer of New Zealand was cordially accepted, and the Secretary of State for the Colonies cabled to His Excellency the Governor-General, for transmission to the Prime Minister of New Zealand, the following message from His late Majesty King Edward VII :—

" I am commanded by His Majesty the King to inform you that His Majesty is deeply gratified at the patriotic feeling displayed by New Zealand towards the Motherland in their splendid offer, and to convey at once his gratitude and high appreciation for the fine patriotism and generosity in the magnificent offer made so promptly and spontaneously."

When announcing to the people of New Zealand the course decided upon by the Cabinet, Sir Joseph Ward stated : " No room is left for doubt that England feels that her supremacy on the sea is seriously threatened by the amazing naval activity in the German dockyards. It appears clear that all thoughtful men in Great Britain recognise that the Empire must set itself with the utmost determination and, if necessary, sacrifice, to maintain the naval supremacy upon which not only our honour but our national greatness depends."

Parliament was not in session at the time the offer was made, but on the 14th June the House of Representatives unanimously confirmed the action of the Cabinet. Thus did H.M.S. *New Zealand* come into being. She was laid down in 1910, cost the New Zealand Government £1,701,000, and was launched on the 1st July, 1911. A few years later this fine warship fought in the battle of Jutland Bank, the grestest sea fight since Trafalgar, proving to the people of New Zealand the foresight of their Ministers.

In 1913 the Government of the Dominion passed the Defence Act, which provided for the establishment of a New Zealand Naval Force, recruited by voluntary enlistment, and controlled by the Dominion Government in time of peace and by the Imperial Government in time of war. Provision was also made for a New Zealand Naval Reserve. In the same year H.M.S. *Philomel* was commissioned as a training ship under Imperial officers. During the Great War this vessel, as well as the Battle-Cruiser *New Zealand*, was employed as a part of the Imperial Navy, but has since been placed in commission as the Depôt ship at Auckland.

Admiral Lord Jellicoe visited the Dominion in 1919 to advise upon Naval Defence, and in the following year H.M.S. *Chatham* was loaned to New Zealand by the Imperial Government. In 1924 this vessel was relieved by the Light-Cruiser *Dunedin*. In the following year H.M.S. *Diomede* (Cruiser) was loaned by the Imperial Government, and, together with the *Veronica* (Sloop) and the *Laburnum* (Light-Cruiser), with a permanent and reserve Naval Force and fully-equipped bases, now comprise " The New Zealand Division of the Royal Navy."

ROYAL INDIAN NAVY.

To enable India to take her proper place among the Nations of the British Commonwealth it was decided in 1926 to abolish the old *Royal Indian Marine*, which for many years has been mainly concerned with military transport work, and to commence the formation of a combatant fleet. The first flotilla is to consist of four Sloops, two Patrol Vessels, four Minesweepers, two Survey Ships and one Depôt Ship. An allocation is proposed from each year's revenue to augment and improve this small unit of the Imperial Navies.

Armies

From the days of the Feudal System up to the year 1903, service in all branches of the British Army was purely voluntary. Then both Canada and Australia passed Defence Acts which made military service compulsory. This course was followed by New Zealand in 1909, and by the Union of South Africa in 1912, but the British Isles still maintained the old voluntary system *because of the security afforded by the predominance of the Navy over that of all other Powers.*

The breaking of the storm which threatened Europe for many years, and the unavoidable participation of the British and Indian Empires in this Great European War, however, caused great changes and unprecedented increases in the military forces at the disposal of the Imperial Government. Huge armies had to be raised in the Motherland and in the Dominions for this, the world's greatest war, and although nearly four millions of men voluntarily enlisted, it was found that a Compulsory Service Act (1916) was necessary in the United Kingdom to secure the immense forces required to carry the war to a successful conclusion.

In 1917, the strength of the army, exclusive of the large garrisons in India, and the Indian and Dominion Armies, numbered 4,000,000. Up to the signing of the Armistice, in 1918, the British Empire had raised 9,669,311 men, and there were still reserves of over 2,000,000 which could have been called to the Colours. This colossal military expansion was carried out in less than four years, and all the troops were armed with the latest appliances of modern warfare. Besides these 9,000,000 trained soldiers, there was a navy of 3,000 armed ships (*q.v.*), and the manufacturing power of over one-fifth of the entire world, exclusive of the giant strength of the Empire's allies.

THE RISE TO MILITARY POWER.

In the present state of transition it is impossible to state definitely the organisation or strength of the Imperial Armies of the present or future, but one fact stands out clear as a brilliant achievement of *great* importance and bearing on the future safety *and influence* of the British Empire. Although the British Army has always been, for its size, one of the most efficient in the world, the Empire as a whole was, until 1914, only *a third-rate Military Power*, having at its command less than 800,000 trained men, made up of heterogeneons forces stationed in places wide apart in the marches of Empire, with but a very inadequate army to guard the vital centre.

The Declaration of War against Germany in August, 1914, roused the martial spirit of the whole British race, with the result that in the months which followed enormous and fully trained and equipped *armies* were organised, which, in an incredibly short space of time, raised the whole British Empire from the ignominious position of a third-rate land power *to the forefront of military nations*, with "the finest equipped army in the world" of about 9,000,000 men. Every one of those who survived the Great War is henceforward a trained soldier, although relieved of service unless the Empire is again threatened by powerful combinations of jealous rivals. Exactly what this means now and in the future it is difficult to describe. Peace for a great Empire with valuable Possessions. depends on its internal power to resist attack; commerce and industry depend in a great measure on the insurance of peace, for without it there is no financial stability or exchange of merchandise; foreign policy relies for its success in a high degree on the armed forces behind it, and home policy is more or less governed by the necessities for defence. These are all truisms of international affairs in the state of the world in the twentieth century. They are factors far deeper than party politics, and no state in the whole world, whether monarchy or republic, is exempt.

BRITISH ARMY.

The land forces of Great Britain, as distinct from the Armies of India and the Dominions, may be divided as follows :—

Regular Army (including British troops in India)	200,583
Army Reserve	97,000
Supplementary Reserve	23,300
Militia of the Channel Islands, Malta and Bermuda	2,763
Territorial Army	184,000
Staff and Training Corps	1,300
Colonial and Native Regiments of the Regular Army	4,400
Total	513,346

The Regular Army of Great Britain consists of the following : Cavalry, 27 regiments ; Artillery, 162 batteries ; Foot Guards, 10 battalions ; Infantry of the Line, 129 battalions, with the Royal Corps of Engineers, the Tank Corps, and the Machine Gun Corps. The Reserve Force of the Regular Army comprises two branches : (1) The Royal Army Reserve and the Supplementary Reserve.

The Territorial Army comprises the following : Cavalry (5,000) ; Artillery (35,000) ; Engineers (12,000) ; Infantry (100,000) ; Air Defence Corps (3,000) ; Signal Corps (6,000) ; Tank Corps (1,200). Each of the above Armies has its own Medical, Army Service, Veterinary, Pay, Ordnance, and other aux-

HIS MAJESTY THE KING AT ALDERSHOT

iliary Corps for the formation of complete Divisions.

The Regular Army is a permanent force maintained in a fully equipped condition and ready to take the field at very short notice. It is the "Expeditionary Force" which is available for immediate transport to any part of the Empire where its services may be needed. The two classes of Reserves are then mobilised to take the place of the Regular Army as garrison troops, and to supply drafts to replace the wastage of modern war while the Territorial Army is being mobilised and concentrated. If required—as in the Great European War,—citizen forces can then be enlisted by voluntary and compulsory service to form powerful national armies with a combined strength of anything up to about 9,000,000. In this connection it should be remembered that during the first few years of the Great War the strength of the voluntary armies alone was over 4,000,000.

In order to arrive at a fair estimate of the *actual* strength which the Empire could exert on any of its Colonial frontiers, if threatened with invasion, it is necessary to add whatever number is taken from the Imperial Armies to that of (1) the Dominion Army of the unit threatened, and (2) the reinforcements which would come from all the other nations of the British Commonwealth.

MILITARY ADMINISTRATION.

The administration of the Imperial Armies is in the hands of a Secretary of State for War, who is a member of the Cabinet (*q.v.*), and is advised on military matters by an Army Council, with the following members: (1) The Secretary of State for War (President of the Council), (2) the Under-Secretary of State (Vice-President), (3) the Chief of the Imperial General Staff, (4) the Adjutant-General to the Forces, (5) the Quarter-Master-General to the Forces, (6) the Master-General of the Ordnance, (7) the Parliamentary and Financial Secretaries and the Permanent Under-Secretary of State.

The Committee of Imperial Defence is an *advisory body* formed to consider and advise the *Imperial and Dominion Governments* on questions of strategy and general organisation for war *as applied to all parts of the Empire*, also to secure *co-operation between the land and sea forces*. It is composed of the following members (enlarged in time of war to include Dominion statesmen, and to form an Imperial War Cabinet):—

Prime Minister of the United Kingdom (President).
Secretary of State for War.
First Lord of the Admiralty.
Secretary of State for Foreign Affairs.
Secretary of State for the Dominions and Colonies.
Secretary of State for India.
Chancellor of the Exchequer.
First Sea Lord of the Admiralty.
Chief of the Imperial General Staff.
Chief of the Air Staff.
Director of Military Operations.
Director of Naval Intelligence.
Other Naval and Military Officers attending as experts.
There is a *Permanent Secretary* to the Committee of Imperial Defence and five Assistant Secretaries.

The Imperial General Staff is a body of military officers of high rank and experience who are responsible for the war plans, strategy, and general preparation of the Imperial Armies for war. There are branches of the Imperial General Staff in India and all the Self-Governing Dominions, responsible for the co-ordination of the Imperial and Dominion Armies. It is divided into four sections: (1) the Chief of Staff, (2) Director of Operations and Intelligence, (3) Director of Staff Duties, and (4) Director of Military Training. Each of these sections has officers, specially trained for the performance of various duties, as Assistant or Deputy Directors. The Staffs of the Army Commands are subordinate to, but in close connection with the Imperial General Staff. They form the "brain" of the military machine in both peace and war.

The headquarters of the Army Council and the Imperial General Staff are in the War Office, London, which is the departmental centre of the whole military system. It houses the staff who carry into effect the orders of the Army Council, as sanctioned by Parliament and by H.M. the King. For the purposes of administration the personnel of the War Office is divided into Civil and Military Departments, as follows: (1) Army Council; (2) Imperial General Staff; (3) the Adjutant-General to the Forces (organisation, personal services, medical services); (4) the Quarter-Master-General to the Forces (movements, remounts, supplies, transport, equipment, stores, and veterinary services); (5)

BRITISH ARTILLERY IN ACTION *Photo, Imperial War Museum*

the Master-General of the Ordnance (artillery, fortifications and factories); (6) the Under-Secretary of State for War (Territorial Army); (7) Parliamentary and Financial Secretary (Finance and Army contracts); (8) the Secretary's Department (administration of War Office); (9) Chaplain-General; (10) the Judge Advocate-General (legal); (11) Queen Alexandra's Army Nursing Board.

MILITARY FINANCE.

It is impossible to give any statistics of military expenditure during the Great War, nor will figures showing the disbursements previous to 1915 be of much value. For historical reference it is, however, instructive to note that the expenditure of the principal nations of the world on both naval and military defence during the year preceding the Great War :—

Country.	Year.	Army.	Navy.	Total.	Per Inhabitant.	
		£	£	£	s.	d.
Great Britain - -	1911–12	27,690,000	44,392,000	72,082,000	31	9
Germany - -	1912–13	38,526,000	22,861,000	61,387,000	18	9
France - - -	1912	36,767,000	17,070,000	53,837,000	27	5
Italy - - -	1911–12	16,207,000	7,809,000	24,016,000	13	9
Austria-Hungary -	1911	15,315,000	2,861,000	18,176,000	7	4
Switzerland - -	1912	1,765,000	—	1,765,000	9	4
Russia - - -	1911	48,268,000	10,826,000	59,094,000	6	7
Spain - - -	1912	7,582,000	2,716,000	10,298,000	10	5
Norway - - -	1911–12	836,000	317,000	1,153,000	9	7
Sweden - - -	1912	3,151,000	1,492,000	4,643,000	16	5
Denmark - -	1912–13	1,098,000	620,000	1,718,000	12	3
Holland - - -	1912	2,525,000	1,697,000	4,222,000	14	0
Belgium - - -	1912	2,594,000	—	2,594,000	6	10
United States - -	1912	34,840,000	26,206,000	61,046,000	12	10
Canada - - -	1910–11	1,410,000	—	1,410,000	3	11
Japan - - -	1911–12	7,637,000	4,074,000	11,711,000	4	6

The total expenditure for war purposes during the years 1914–18 was as follows :—

	£
1914–15 - - -	362,000,000
1915–16 - - -	1,420,000,000
1916–17 - - -	2,010,000,000
1917–18 - - -	2,450,000,000

Little reduction in this enormous annual expenditure was possible before the final conclusion of peace. The cost of the Imperial Army in 1920–21 was £164,750,000. During the succeeding four years it was reduced to the annual average of about £62,000,000, and it has since been steadily decreased to about £41,000,000 a year.

AUSTRALIAN ARMY.

The Defence Acts of 1903–13 were the direct outcome of the feeling, shared by all classes of the community, that Australia was insecure under the voluntary system. The Minister of Defence pointed out the fact that if on a map of the world all the countries stained with blood were to be marked, Australia would be the only white spot. It is the national policy to effect a guarantee, by *thorough* preparation for war, that this exemption should continue.

AUSTRALIAN ARTILLERY *Official Photo*

By the Defence Acts of 1903 and 1904, all male inhabitants of Australia between the ages of 18 and 60 were made liable to serve in the defence forces *in time of war.* The recent Acts, however, make training and service compulsory *in time of peace.* By the Acts of 1909 and 1922 the principle of universal liability to military training was made law for the first time in any English-speaking community. This liability now rests upon all male inhabitants of Australia (except those specially exempted) who have resided in the Commonwealth for six months and are British subjects. From the age of 12 to 18 years, service is in the *Cadet Corps* and from 20 to 26 years in the *Citizen Forces.* All males between the ages of 18 and 60 are liable for service in time of war. The operation of the compulsory military training law is, however, confined to the populous centres. In 1930 a portion of this law was temporarily suspended.

The organisation of the Australian Army is based upon the number of men available, the length of service demanded, and the proportion of the various arms required. The peace strength is 110,000 of all ranks, but in time of war this can be increased up to nearly 400,000. The present establishment provides for 28 regiments of light cavalry, 56 batteries of artillery, and 92 battalions of infantry, with a due proportion of engineers, army service and medical corps, garrison troops, and auxiliaries.

The Reserves consist of : (*a*) Officers who, having passed through a certain period or course of training, have retired from active service ; and (*b*) members of rifle clubs, attested under the Defence Acts. Rifle club members are required each year to fire a prescribed musketry course, a capitation allowance being paid to clubs for each member classed as efficient. Rifle clubs would furnish a means of bringing the active forces up to war strength in time of national emergency. The Commonwealth is divided into Military Districts, the boundaries of which are nearly identical with those of the States.

Following upon the endowment by the Sydney University of a Chair of Military

Photo, Sport & General

PRINCESS PAT'S CANADIAN LIGHT INFANTRY ON THEIR WAY TO WESTMINSTER ABBEY WITH THE FLAG CARRIED BY THEM THROUGH THE GREAT WAR

Science, a curriculum, to extend over a period of three years, was arranged to commence in March, 1907. Completion of the course entitles the student to a diploma in military science, and students not completing it receive certificates for any courses in which they have given satisfaction.

The Commonwealth of Australia sent overseas a volunteer army of about 400,000 men, who did magnificent service in Gallipoli, France, Salonika, Egypt, Palestine, and in other theatres of the World War. Their deeds make glorious pages in the annals of the British race. The total cost of the war to Australia up to 1923 was just under 500,000,000 sterling, and the casualties among her brave forces were severe.

With this large reserve of trained men, supplemented from year to year by thousands of new recruits (average, previous to 1930, 46,000 per annum), a growing Navy, and with the Imperial Navies and Armies within call, the defence of Australia and the British sphere in the Pacific is assured.

CANADIAN ARMY.

Under the Canadian Militia Act of 1904, all male British subjects between 18 and 60 years of age are liable to a mild form of military service, being subject to thirty days drill a year for three years, and to serve in time of war. In practice, however, there is no compulsion, as there are always enough volunteers to make up the annual training units. There is a Ministry of Defence, and a Canadian Section of the *Imperial General Staff* has been organised.

The armed forces of the Dominion comprise: (1) *The Permanent Force*, (2) the Active Militia, (3) the Reserve, and (4) the Cadet Corps. The Permanent Force consists of about 3,675 officers and men, and is the medium of administration and instruction of the *Active Militia*, which numbers 10,500 officers and 112,000 of other ranks. Behind this, which may be called the First Line, there is the Reserve Militia (trained and untrained), which consists of four classes: (*a*) the unmarried men between 18 and 30 years of age, (*b*) the unmarried men between 30 and 40, (*c*) the married men 18 to 45, and (*d*) the remaining male citizens between the age of 18 and 60. The Cadet Corps comprise over 900 companies, with 42,000 cadets and 9,000 instructors. The Permanent Force consists of:—

The Royal Canadian Dragoons.
Strathcona's Horse (Royal Canadians).
The Royal Canadian Horse Artillery.
The Royal Canadian Garrison Artillery.
The Royal Canadian Regiment.
The Royal Canadian Engineers.
The Canadian Permanent Army Service Corps.
The Permanent Army Medical Corps.
The Canadian Ordnance Corps.
The Canadian Army Pay Corps.
The Corps of Military Staff Clerks.

The part played by the gallant Canadian Army in the Great European War is now too well known to need special comment here, although some of its greatest victories are briefly related in the article devoted to the World War. The number of troops sent overseas during the years 1914–18 was approximately 518,000, and Canada proved, by the passing of a Compulsory Service Act in 1917, that she, in common with all parts of the far-flung Empire, intended to attain victory no matter what the cost. At the time of the signing of the Armistice there were 300,000 reserves being trained to act as reinforcements to the 500,000 already sent. For years the Canadian Army held a considerable section of the Allied line in France, her victories were many, and the banners of her regiments were carried victoriously to the Rhine. The total cost of the War to Canada was 2,000,000,000 dollars.

INDIAN ARMY.

The Government of India maintains armed forces comprising 478,000 men for the defence of the country, and in order to provide military assistance to the British Empire in time of war. These forces are made up of about 68,000 British troops (portion of British Army), 164,000 Indian troops, 38,000 Anglo-Indian volunteers and 187,000 Indian armed police. There are also regiments of Frontier Militia and local levies. The whole of this force, with the exception of the volunteers, is always on a war footing, and is ready to take the field at a moment's notice. Behind this Active Army there are very large numbers of trained Reserves, instantly available in the event of war. The average annual cost of the armies of

THE ROYAL REVIEW ON LAFFAN'S PLAIN, ALDERSHOT
H.M. The King taking the salute from a Scottish Regiment

Photo, Sport and General

British India is approximately £36,000,000. The Native Princes of India, co-operating with the Supreme Government, maintain what are known as "Imperial Service Troops," numbering in all about 21,000 men, organised and drilled by British officers. These forces are in addition to the Imperial Armies.

The administration of the Armies of India is in the hands of a "British Commander-in-Chief," who is assisted by a Military Council and a permanent departmental staff. The Commander-in-Chief is a member of the Viceroy's Council, and thus of the Supreme Government of India. There are also responsible financial officials. The British troops, being regiments sent out from the United Kingdom, are commanded by their own officers, and the Indian troops also have British officers, as well as a large number of native, commissioned and non-commissioned officers. About 25 per cent. of the Indian officers are drawn from "military families," and the remainder are raised from the ranks. In 1927 it was recommended by the Sandhurst Committee that an increasing number of Indians should be admitted to the commissioned ranks of the Indian Army. The number to reach 50 per cent. by the year 1952.

Out of the 155 native infantry battalions thirty are known as "Class Battalions," or are composed of men belonging to one tribe or caste. As a general rule, however, the regiments are composed of Sikhs, Jats and Pathans, from the Punjab; Gurkhas, from Nepal; and other fighting races and castes from various portions of the Indian Empire.

Through its own arsenals and factories, the Indian Army supplies itself with stores and munitions of war, while horses are supplied to both British and Native regiments by a *Remount Department*, which draws from its own horse-breeding estates and from Australian establishments the number of mounts required. There are also available large numbers of mules and camels for transport purposes. The armament of the native troops is of the most efficient pattern. The rifles used are the same as in the British Army, the batteries are British.

Although the Anglo-Indian volunteer regiments, previous to the Great European War, comprised about 38,000 men, all fully armed, equipped and trained, only about one-half the number capable of joining actually did so, and volunteering generally amongst British and Anglo-Indians was not so good as it should have been. Service in the volunteers was, however, made compulsory for Anglo-Indians during the Great War. From the planting districts come three regiments of light horse, in the large cities are battalions of infantry; but the most efficient and useful of these volunteers are those recruited from the railway staffs, and these it is considered would be very valuable in time of trouble for keeping open the line of communication.

The active troops of the Indian Army have been concentrated wherever possible in large garrisons, in order that all arms may be constantly trained in combined tactics. These garrisons have been divided into divisional commands, each being complete in itself and capable of immediately contributing one division for field service *without unduly* weakening the reserve always held in readiness for the suppression of internal disorder. The *war* divisions form an active field army of about 150,000 men. In order to prevent any of these troops being withdrawn from field exercises for frontier outpost duty, the *immediate* defence of the North-Eastern and North-Western frontiers has been entrusted to strong forces of Military Police and local Militia, totalling about 180,000 men.

The commands of the field army all face the Northern frontier, and are echeloned one behind the other in order to be *ready* to move forward in a succession of lines. One-third of the entire army is concentrated within 100 miles of the North-Western frontier, which has been greatly strengthened by strategic railways and fortresses.

The principal commands of the Indian Army (including British troops) are as follows:—

Northern Army—

Peshawar Division.
Rawal Pindi Division.
Lahore Division.
Meerut Division.
Lucknow Division.
Independent Division.

Brigades at Kohat, Bannu and Derajat.

Southern Army—
- Quetta Division.
- Mhou Division.
- Poona Division.
- Secunderabad Division.
- Burma Division.
- Aden (Independent Brigade).

INDIAN POLICE.

It may seem, at first sight, out of place to record the work of the Indian Police in this Military article, but in most cases they are armed State Police, who are trained and equipped on a military basis, and relieve the battalions of the Active Army of much work which would otherwise fall to their lot. The whole of British India is controlled, *and its frontiers guarded*, by the Indian Police, who number over 180,000, and are under the direction of British and native officers. It is the work of this large force not only to prevent individual crime, but also to guard against *insurrection or defiance of State authority*, and for this purpose, at the Police Headquarters of each district, a force, varying in size, but armed and drilled in accordance with military principles, is always held in readiness. In the case of large or disturbed areas, as many as 600–900 police are attached. On the North-Western and North-Eastern frontiers there are several battalions of police under military officers. During recent years, these armed police forces have been greatly increased, in order to relieve the Active Armies for field operations.

Although the prevention of internal disorder (both in peace and war) forms one of the most important duties of the Indian Police, its main duty lies in the suppression of crime ; but for this purpose the State Police are assisted by village watchmen (*or local native police*) numbering over 700,000, and who inform the State Police of any offences that have been committed in their respective districts. Generally, the public give no help whatever to the police or authorities in the preservation of law and order.

It has always been considered advisable to maintain in peace time one British soldier in India for every three trained and armed native soldiers, and to give about fifteen British officers to every native regiment.

Out of the total expenditure, during recent years large sums have been spent on war operations, reorganisation, fortification, railway and transport arrangements. India, aided by troops from other portions of the British Empire, carried to a victorious conclusion the conquest of Mesopotamia (see *Iraq*), and, in addition, sent an army corps of British and Indian troops to France, besides units to Egypt, Palestine, and other theatres of the World War. India recruited on a voluntary basis 1,338,620 men between the years 1914–18, and out of this number over 1,000,000 were sent overseas.

IRISH FREE STATE ARMY.

Although the sea defence of both Great Britain and Ireland is undertaken by the Royal Navy, the Irish Free State has provided a force for military defence in the same way as the other Self-Governing Dominions. The Irish Free State Army, which is under the control of a Minister of Defence, has a combined strength of about 1,000 officers and 12,000 men.

NEW ZEALAND ARMY.

Service in the New Zealand Defence Forces is compulsory. The Defence Act (1909–10), which came into force on 29th March, 1913, provides for the gradual training of every male New Zealander from the age of 14 to the age of 25, after which he will serve in the Reserve up to the age of 30. Except for those physically debarred, there are no distinctions and no exceptions. The principle is that everyone, unless physically unfit, will have to take his share in the defence of the Dominion.

From the age of 12 to the age of 14, a boy at a primary school performs a certain amount of physical elementary training, under the direction of the Education Department. This is not considered military training under the Defence Act. On reaching the age of 14, or on leaving a primary school, the boy is transferred to the Senior Cadets, and then becomes a member of the Military Forces, though not liable to be called out to fight. He remains a Senior Cadet till he is 18, on reaching which age he is, if found to be physically fit, drafted into the Territorial Force. As a soldier, he is liable to be called out at any time for service within the Dominion. On reaching the age of 25, if still serving, he is transferred to the Reserve. He remains in the Reserve till he reaches the age of 30, when he is discharged. As a Reservist, he will be liable to be called back to his regiment in case of war or other national emergency.

If he belongs to a Rifle Club, he will, as long as he remains a member, be liable up to the age of 55 to be called up as part of a secondary Reserve to fill the ranks of the Territorial Force after its own Reserve has been used up. A male of an age rendering him liable to undergo military training may, in certain circumstances, be allowed to undergo training as a member of a Defence Rifle Club, where the nearest drill centre of a Territorial unit is too far distant for him to attend parades. Provision exists under which Rifle Clubs absorb and train about 35 per cent. of the enrolled strength of those liable to serve in the Territorial Force. As far as possible, arrangements are made to post the incoming recruits to the branch of the service and the drill centre they desire to be trained in, and care is taken not to post to the same unit more persons out of any business concern than the employer can spare at the same time.

The New Zealand Army is divided into two sections: (1) the Permanent Force, and (2) the Territorial Force. The former consists of the following units:—

- The New Zealand Staff Corps, which includes a section of the Imperial General Staff, composed of officers interchanged between the Military Forces of New Zealand and the Imperial, Indian and Australian Armies.
- The Royal New Zealand Artillery (Horse, Field, and Garrison).
- The New Zealand Permanent Air Force.
- The New Zealand Ordnance Corps.
- The New Zealand Army Pay Corps.
- The New Zealand Permanent Army Service Corps.
- The Permanent Staff, which consists of warrant and non-commissioned officers who act as instructors of the Territorial Army.

The Territorial Army comprises the following units:—

(1) Mounted Rifles (9 Regiments).
(2) Territorial Artillery (21 Batteries).
(3) Territorial Engineers (Field)(3 Depôts).
(4) The Signal Corps (3 Depôts).
(5) The Railway Corps (2 Battalions).
(6) Infantry (3 Brigades).
(7) Army Service Corps (3 Depôts).
(8) Post and Telegraph Corps (3 Depôts).
(9) Medical Corps (3 Depôts).
(10) Veterinary Corps (3 Depôts).

There is a Territorial Force Reserve, a National Reserve, a Motor Reserve (officers), and the Defence Rifle Clubs, all of which form part of the Military System, because of the liability of their members to serve as a second line of defence. Officers and men of the Permanent Force are liable for foreign service, but the remainder of the Military Forces are liable for service within the Dominion only.

For the purpose of decentralisation, the Dominion is divided into four military districts, viz., Auckland, Wellington, Canterbury, and Otago. The military districts are further divided into "area-groups" and "areas," each under the command of an officer of the New Zealand Staff Corps. Each regiment of mounted rifles, brigade or division of artillery, and battalion of infantry, has a permanent paid officer of the New Zealand Staff Corps as Adjutant, with an Assistant Adjutant drawn from the regiment to help him.

The Staff of the New Zealand Army consists of the Headquarters Branch and the Staff in the Districts. The former is divided into (1) the General Staff, and (2) the Administrative Staff. The Commandant, in his capacity of General Officer Commanding and Inspector-General of the Forces, is responsible for the organisation, discipline and efficiency of the Forces. In his capacity as Chief of the New Zealand Section of the Imperial General Staff, he is responsible for advice on local military policy to be pursued, organisation of the local Forces in accordance with State policy, plans for local defence, supervision of training of troops, education of officers, and selection of officers of local Forces for study at Imperial Staff Colleges.

Under an arrangement with the Commonwealth Government, provision is made for the nomination of a certain number of New Zealand cadets annually for a course of training at the Royal Australian Military College, in order to prepare them to fill positions in the New Zealand Staff Corps. The course is of four years' duration, and the expense is borne by the New Zealand Government.

AFTER THE BATTLE

Photo, Imperial War Museum

His Majesty the King in the New Zealand Lines during the great German offensive of 1918

The New Zealand Territorial Force (including the Territorial Reserve) is the first line of defence of the Dominion *after the Royal Navy*. Its position cannot be fairly compared with that of the Territorial Force in the United Kingdom, which has the Regular Army and Reserve in front of it. The New Zealand Territorial Force must be able to take the field at once on the outbreak of war. It *is* the New Zealand Army; and the permanent officers of the Staff Corps, the Permanent Regiment of the Royal New Zealand Artillery, and the warrant and non-commissioned officers of the Permanent Staff are its auxiliaries to control, guide and instruct it.

The Territorial Force is maintained at a strength of about 30,000. In each of the four military districts into which the Dominion is divided there is a brigade of infantry, a brigade of mounted rifles, and a brigade of field artillery, as well as the necessary number of garrison artillery for coast-defence (three companies each in Wellington and Auckland, and one company each at Dunedin, Lyttleton and Westport), a field company of engineers, medical units, and other departmental troops. An infantry brigade includes four battalions and a signal company; a mounted brigade, three regiments of mounted rifles and a signal company; and a brigade of artillery, two four-gun batteries. The Force is fully armed and equipped according to the most modern standard; the men are uniformed by the State, and are paid and rationed during the annual camp.

The units of the Force are commanded and trained by their own officers, assisted by the Staff Corps, the Permanent Force, and the Permanent Staff. Each Regimental Commander has a certain number of professional soldiers to help him and to relieve him of administrative duties, but no one to interfere between him and his regiment. The officers are drawn from the ranks on the recommendation of the Commanding Officers, and are appointed, promoted and retired in accordance with definite regulations calculated to ensure their efficiency and their status.

The approval of His Majesty the King has been obtained for the alliance of the undermentioned Infantry Regiments of the New Zealand Military Forces with regiments of the Home Army:—

New Zealand Regiment.	British Regiment.
1st (Canterbury) Regiment	The Queen's Own (Royal West Kent Regiment).
2nd (South Canterbury) Regiment	The Durham Light Infantry.
3rd (Auckland) Regiment ("Countess of Ranfurly's Own)	The Suffolk Regiment.
4th (Otago) Regiment	The East Surrey Regiment.
5th (Wellington) Regiment	The Yorks and Lancaster Regiment.
6th (Hauraki) Regiment	The Oxfordshire and Buckinghamshire Light Infantry.
7th (Wellington West Coast) Regiment	The Royal Irish Regiment.
8th (Southland) Regiment	The Manchester Regiment.
9th (Wellington East Coast) Regiment	The Prince of Wales' Volunteers (S. Lancashire Regiment).
10th (North Otago) Regiment	The Duke of Edinburgh's (Wiltshire Regiment).
11th Regiment (Taranaki Rifles)	The Duke of Cambridge's Own (Middlesex Regt.).
15th (North Auckland) Regiment	The Northamptonshire Regiment.
16th (Waikato) Regiment	The Prince of Wales' Own (West Yorkshire Regt.).

The Rifle Clubs, being part of the New Zealand Military Forces in virtue of the liability of their members to serve as a second line of defence, are governed by the Military Regulations, and are required to carry out each year a prescribed course of musketry. Members of Rifle Clubs liable to undergo military training are required to attend at least eighteen afternoon or evening drills at convenient drill centres. The drill centres are, as far as possible, arranged so as not to entail more than one hour's walk or one hour's ride from the men's homes, as in the case of Territorials and Senior Cadets.

The unit of organisation and training in the Senior Cadets is the company of infantry. Companies composed of cadets belonging to any school or other recognised organisation (such as the Boy Scouts) form part of that school or organisation, and are subject to its discipline, supplemented by the regulations. In dealing with such companies, and in the appointment of their officers, the military authorities co-operate with head-masters, and with the heads of such other recognised organisations. The Senior Cadets have officers holding Territorial Commissions on the Unattached List, with the same qualifications and liabilities as other Territorial officers.

The *New Zealand Military Journal*, compiled by the General Staff and contributed to by officers of the Permanent Staff, Territorial Force Reserve, and Retired List, is published quarterly. The " New Zealand Army List " is published quarterly, and " General Orders " are issued monthly. A report is prepared by the General Officer Commanding as to the efficiency of the Forces under his command, and is presented to Parliament annually by the Minister of Defence. A military topographical survey of New Zealand has been completed.

The active participation of New Zealand in the Empire's affairs is shown not only in political and naval matters (*q.v.*), but also in the number of troops sent overseas for service in the South African War and the more recent European War. In the former campaign the Dominion participated to the extent of about 7,000 men, and in the Great War 110,000 New Zealanders fought in France, Gallipoli, and Egypt. In addition, a combined naval and military force captured the German colony of Samoa ; and there were 10,000 trained reserves in New Zealand ready to reinforce the Army of 110,000 already in the fighting lines.

ARMY OF THE UNION OF SOUTH AFRICA.

Although the military forces of this nation of the Empire are nominally obtained under a compulsory service act, enlistment is, in reality, almost entirely voluntary after the cadet age (17 years). By the South Africa Defence Acts of 1912 and 1922, every citizen between the ages of 17 and 60 years is liable to serve *in time of war*, and those between the ages of 21 and 25 are liable to undergo training *in time of peace* with the Active Citizen Forces of the Union. This training is spread over a period of four consecutive years. It is, however, provided that only *half* the total number of men (21 to 25) liable to peace training shall actually be enrolled in the Active Citizen Forces, unless Parliament makes financial provision for the training of a larger number. British subjects between these ages who are not enrolled for peace training with the Active Forces are, however, to be compelled to undergo a system of training for four years in a Rifle Association. It is also provided that cadet training shall be given to boys between the ages of 13 and 17 in towns and other populous centres where arrangements can conveniently be made.

For the purposes of military administration, South Africa has been divided into Military Districts. In each of these there are units of the various arms to which those undergoing peace training are attached. Although the Government reserve the right to call upon all citizens within the age limit to undergo peace training, the arrangement made that only 50 per cent. of those available are to actually receive full training in the Citizen Forces, enables this, the active army of South Africa, to be composed of young men (20-25) who *voluntarily* enter the Union Forces. The remainder receive elementary instruction in the Rifle Associations. The efficiency of recruits to both the active and reserve forces being enhanced by the previous training they have received in the Cadet Corps (compulsory between the ages of 13 and 17).

The Army of the Union of South Africa is divided into two sections, in the same way as the military forces of all the Self-governing States of the Empire. There is (1) the South African Permanent Force, which includes the Staff Corps, the Instructional Corps, the Field Artillery, the Garrison Artillery, the Engineer Corps, the Air Force (*q.v.*), the Army Service Corps, the Medical Corps, the Ordnance Corps, the Veterinary Corps, and the Administrative, Pay and Clerical Corps. (2) The Citizen Force is the Territorial Army of the Union. It consists of about 200,000 trained men of all arms and branches of the military system. In time of war this force could be doubled by the mobilisation of all the Reserves. In addition, there is the Naval Defence Force, which was described under *Navies*, and the Coast Garrison

Force (consisting of Garrison Artillery and a Coast Defence Corps).

The principal object of the South Africa Defence Act Amendment of 1922 was to provide for a small standing Army, with a Territorial Army as the second line of defence, an efficient Air Force, and the Naval Service and Coast Defence forces for co-operation with the Imperial Navy (as in the European War). The Union of South Africa carried to a successful conclusion the campaign against the German forces in South-West Africa, aided the Imperial and Colonial Forces in East and Central Africa, and held a large section of the British Line in France (Delville Wood) during the epoch-making years 1914–18.

The military forces of the Crown Colonies and Protectorates are described under the respective territorial headings. They form a part of the Armies of Great Britain. Rhodesia has an efficient defence force, and contributed largely to the Imperial Armies during the Great War. Newfoundland has a Territorial force and a Naval Reserve. This self-governing State supplied over 12,000 men to the fighting forces during the years 1914–18. The Sudan maintains a "Defence Force" of several thousand well-trained native troops under British officers. In the East African Colonies there are detachments of the King's African Rifles.

Air Forces

This young but important branch of the defence system, which reached maturity during the Great European War, originated as a part of both the Navy and the Army. The older services, combined with the early pioneers of civil aviation, were responsible for much of the experimental work which brought it to the practical stage. The Naval Wing of the Royal Flying Corps (Army), founded in 1912, was recruited partly from the Navy and partly from the civil population; and the Military Section was formed in the same way. After many changes in

Photo by kind permission of the West India Committee

THE BAND OF THE OLD WEST INDIA REGIMENT

status, uniform, name and departmental allegiance both sections were combined to form the " Royal Air Force," in 1917.

An Act of Parliament was passed which provided for the amalgamation of the two branches and the centralisation of all matters relating to the Air Defence of the Realm in an Air Council. In addition to being charged with the creation of a new line of Imperial defence in the third element this Council was empowered to regulate and control all matters connected with the navigation of the air. So interwoven, however, are the problems and spheres of utility of aerial reconnaissance and attack with naval and military operations and intelligence in general that both the older services protested vigorously against this loss of control over an arm which they had developed, and upon which in time of war they must necessarily depend for certain factors of intelligence and attack. The *pros* and *cons* of this controversy are, however, irrelevant in a work of reference, but it must be pointed out that aerial work, whether undertaken by a separate force or not, will, in all future warfare, form a necessary adjunct of most naval and military operations.

At the time of the amalgamation of the two Air Services into the Royal Air Force the Imperial Government gave the following conclusions as the factors which had determined the creation and maintenance of a separate, third line of defence.

(1) The Air Force must be autonomous in the matter of administration and education.

(2) In the case of defence against air raids, the Navy and the Army must play a secondary role.

(3) In the case of military operations by land or of naval operations by sea, the Air Force must be in strict subordination to the general or admiral in supreme command.

(4) In other cases, such as the protection of commerce and attack on enemy harbours or inland towns, the relations between the Air Force and other Services should be regarded as a matter of co-operation and subordination, when airplanes were acting as ancillary to other Services.

The Air Ministry was established in 1918 as the Parliamentary, financial and general administrative headquarters of the Royal Air Force. The personnel of this State Department was largely drawn from the Active Service, supplemented by civil servants of various grades.

The Parliamentary chief of this new Ministry is the Secretary of State for Air, who is also President of the Air Council. This latter body consists of the President and the Vice-President (Under-Secretary of State), the Chief of the Air Staff, the Air Member for Personnel, the Air Member for Supply and Research, and the Permanent Secretary, who is a civil servant of high grade. The Air Staff is divided into five sections : (1) the Chief of the Air Staff ; (2) the Director of Operations and Intelligence ; (3) the Director of Organisation and Staff duties ; and (4) the Director of Works and Buildings.

Other departments of the Air Ministry include : (1) the Directorate of Civil Aviation ; (2) Department of the Permanent Secretary (administration of the departmental staff) ; (3) the Directorate of Accounts ; (4) the Directorate of Contracts ; (5) the Meteorological Office ; (6) the Directorate of Lands ; (7) the Chief Mechanical and Electrical Engineer ; (8) Department of the Air Member for Personnel (manning, training, and medical services) ; and (9) Department of the Air Member for Supply and Research (design, armament, equipment, instruments inspection and research).

The Royal Air Force has a total personnel of 33,000 of all ranks. The annual expenditure is about £16,000,000, and there are approximately 56 squadrons, of which 39 are in Great Britain, 6 in India, 5 in Iraq, 4 in Egypt, 1 in Palestine, and 1 in Aden. There is also an additional " Fleet Air Arm " consisting of 25 flights, and a " Coastal Reconnaissance Force " of 4 flights. Owing, however, to the redistribution of Naval, Military, and Air Commands and units which is almost continually taking place to meet new requirements in the political situation it must be remembered that the exact distribution of units over the Empire is liable to change.

The Air Council grant subsidies amounting to several hundred thousands a year, to encourage civil aviation. Grants are made towards the maintenance of the Air Mail Services between London and Paris, London-

Brussels-Cologne, Manchester-London-Amsterdam-Berlin, and England-Egypt-Iraq (Mesopotamia), and England-India. Similar services have been suggested between England and Australia, and England and South Africa, but there is a great deal of uncertainty and hesitation which render it impossible to make reliable statements as to the air routes of the Empire. The Cape Cairo route is another important link in the air communications.

There is also an Air Force Reserve which numbers over 1,000 officers and 10,000 of other ranks. There is a Royal Air Force Cadet College at Cranwell and a Staff College at Andover.

The flying squadrons of the Self-governing Dominions are steadily progressing in both size and efficiency. Canada has, at present, the largest force, but Australia and South Africa are forming air squadrons as an integral part of their defence forces, and the Indian Army has 6 squadrons from the Imperial Air Force, which are paid from the Indian exchequer in the same way as the British troops stationed in the Indian Empire.

MISSION AND POWER OF THE BRITISH EMPIRE.

Having concluded this outline of the system of Imperial Defence the words of the late Field Marshal Sir Henry Wilson, Chief of the Imperial General Staff (and War Council) during some of the terrible years of the Great European War, would seem to form a fitting summary of the power and mission of the British Commonwealth.

" We are not the first people who have tried to make an Empire. All the others, from the Phoenecians to the Germans, did wonderful work, but although all of them reached a high point, that point in my judgment was passed, and long passed, by the British Empire in the years 1914–18, for in those years our Empire rushed to help not only the Mother Country but the principles for which she stood ; rushed to help her not as bondsmen but as freemen.

" I was one of those who from 1910 to 1914 thought that if our rulers of those days had not been afraid to set out in front of all the world the majesty and power of the British Empire there would have been no war. And I am one of those who think that if our present ruler and our *future rulers* are not afraid to set out the glory and power of the British Empire, then there will be no great war in the future.

" In November, 1918, when the ' Cease Fire ' sounded along the battle line—such a battle-line as nothing in history tells of—when the ' cease fire ' started at Dunkirk and was carried by our bugles 2,500 miles to Basra, it seemed to me that the British Empire had reached a point never attained by any people before. . . . I believe the great mission of our Empire to be the forbidding of great wars."

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